


THE BRITISH
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VOL. XV.

EDITED BY

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BRITISH GYNÆCOLOGICAL SOCIETY.

THURSDAY, FEBRUARY 9, 1899.

H. MACNAUGHTON-JONES, M.D., PRESIDENT, IN THE CHAIR.

THERE were present 35 Fellows and Visitors.

The following eminent gynæcologists were elected to the distinction of Honorary Fellow of the Society :—Howard A. Kelly, M.D., Professor of Gynæcology in the Johns Hopkins University, Baltimore, U.S.A.; Frederic Schauta, M.D., Professor of Gynæcology in the University of Vienna.

The following gentlemen were elected Fellows of the Society :—S. Jervois Aarons, M.D., London; John Henry Brown, M.D., Sheffield; Andrew Horne, F.K.Q.C.P.I., Dublin; E. J. Trevor Jones, M.R.C.S., Aberdare, S. Wales; Percy Lewis, M.D., Folkestone; R. P. R. Lyle, M.D., Dublin; George R. Radmore, L.S.A., Wandsworth.

The following gentlemen were proposed for election :—J. M. Coates Cole, M.R.C.S., Curaçao, West Indies; William Henry Thornhill, M.D., Lt.-Col., East India Medical Service.

SPECIMENS.

Dr. BANTOCK exhibited two specimens of fibroid tumour, weighing respectively $6\frac{1}{2}$ lbs. and 8 lbs. The first was obtained from a married lady, aged 49, sterile. The case had been under his observation for four years. When first seen, the tumour was about the size of a small foetal head, on the left side of the uterus, with a good cervix slightly to the right of the middle line. There were no symptoms demanding interference, and the tumour had been known for eight years. Two years later there were still no symptoms, but about the beginning of 1898 it began to grow, and the menses became more abundant, and irregularly protracted to as much as two to three weeks. The tumour had increased very much, and while it had descended into the left side of the pelvis the cervix had risen until the os could only be reached by the tip of the finger. After securing the ovaries on each side, the broad ligaments were divided and an elastic ligature put round the tumour as low as possible. The peritoneum was then divided all round, and as the tumour was shelled out and raised out of the pelvis, the ligature slipped below the tumour and the slack was taken up. The posterior *cul de sac* was now opened, the uterine arteries were secured and the whole of the uterus removed. After turning the ligatures into the vagina the peritoneum was closed over, and the abdominal wound closed in two stages. There was very little blood lost, towards which the elastic ligature helped materially. In spite of the great amount of fat in the parietes, and a very troublesome cough, the wound healed well, except just at the umbilicus where it was difficult to keep the edges of the skin together.

No. 2. This was a rapidly-growing pedunculated fibroid springing from the fundus of the uterus by a pedicle from three and a-half to four inches in circumference, removed from a single lady, aged 49. There was an enormous plexus of veins in the left side. Having failed to secure the pedicle

by ligatures after forcible compression, he was obliged to use the *serre nœud* after removal of the appendages. The patient was doing well.

Dr. HERBERT SNOW.

Case I.—Vaginal Hysterectomy for Epithelioma of Cervix.—A single woman, aged 28. Five months previously fell over edge of the bath with legs separated. Hæmorrhage three weeks afterwards followed by the usual symptoms. "Scraping" in a provincial hospital a month before admission. A soft, flattened, pulpy, broad mushroom-like mass of cervix; bled profusely when touched; marked anæmia.

At the operation most of this had to be torn off with fingers before any hold for the volsella could be gained. This was on November 25 last. Entirely cicatrised on December 19. Remains well up to date. By the microscope, epithelioma. The mode of causation and the early age were both points worthy of note.

Case II.—Abdominal Hysterectomy for Myoma.—Tumour noticed three months in a rather spare married women, aged 37. Growing rapidly and causing frequent and scanty micturition.

At the operation a departure was made from the usual methods, by dissecting off a thin layer of the uterine tissue, as well as peritoneum. The advantages claimed for this are smaller risk of wounding ureters and that it is preferable with many pelvic adhesions. The plan has the disadvantage of greater liability to hæmorrhage from the uterine veins. This is readily controlled, however, by dragging well on the tumour with the volsella. Martin's catgut was used for the lower ligatures. Abdominal wall was sutured in two layers, catgut and silk. The process of recovery was shown by temperature chart.

Case III.—Small Myoma removed from Portio Vaginalis Posterior Lip of Woman aged 47.—Formed a pedunculated mass, causing much lumbar pain, and profuse vaginal discharge, simulating malignancy. Only myoma was detected. The operation was in November, 1897. Now exhibited as

showing the fresh appearance of the tissues, preserved by the formaline process, after the lapse of time.

REMARKS ON DRS. BANTOCK AND SNOW'S SPECIMENS.

Mr. F. BOWREMAN JESSETT said he was pleased to find that Dr. Bantock was becoming a convert to the sub-peritoneal method of dealing with these myomatous growths. He could not quite understand why he used the elastic ligature, as, even in the very largest cases of myoma, he had never seen any hæmorrhage which could not be controlled by pressure process. Moreover, in his opinion, the very presence of the elastic ligature must interfere materially with the later steps of the operation, whether for complete removal of the uterus or the subperitoneal method of dealing with the stump. Mr. Jessett always found it easy to ligature the uterine artery after the broad ligament had been secured and divided. Mr. Jessett regretted that Dr. Bantock had in his second case resorted to the *serre-nœud*, as on examining the specimen he could not see that there would be any difficulty in ligaturing the uterine arteries and treating the stump subperitoneally.

Referring to Dr. Snow's case Mr. Jessett had always been able to peel off the peritoneum from the growth and uterus in the front very easily; posteriorly occasionally there was greater difficulty. He could not agree with Dr. Snow that securing some of the uterine tissue was good practice, and he feared the patient would be much more liable to sepsis from the possible sloughing of the tissues. Moreover, there must be much more bleeding from the cut surface than would arise from peeling off the peritoneum.

Dr. F. EDGE agreed with the views and remarks of Mr. Jessett. His experience, although short, had proved to him the inadvisability of leaving the cervix or any uterine tissue, as was the case with the extra-peritoneal clamp operation, and as Dr. Snow had advised in his case, since it was at present not in their power to decide with certainty whether

the growth was malignant or benign. He had had within twelve months two cases of malignant growth, whether recurrent or arising *de novo* was not known, in portions of uterus left.

Dr. WALTER (Manchester) referred to some of the inconveniences and dangers of using the clamp; since he had discarded it he found the mortality of abdominal hysterectomy was greatly reduced. He did not see any necessity for including muscular tissue in the flaps as advocated by Dr. SNOW, unless in those cases where the myoma was intra-ligamentous, and in direct contact with the ureter.

The PRESIDENT asked Dr. SNOW if he understood him to say that the operation he referred to was myohysterectomy. If so, he demurred altogether to the leaving of any muscular tissue to cover the stump, and he could see no possible object with regard to the ureters. Often as Howard Kelly's operation had been performed, it was still on its trial as a perfect method as compared with complete removal of the uterus or panhysterectomy. The leaving of the cervical stump was a most important consideration. It involved the possibility of infection from the cervical canal and sloughing of the stump, as well as return of disease in the latter. If myohysterectomy be performed, he preferred to leave as little muscular tissue as possible, covering the stump carefully with peritoneum alone, and hollowing out as far as possible the subjacent tissue of the cervix. He quite agreed with all that had been said of the now discarded elastic ligature, and believed that Dr. Bantock would before long, with his usual operative skill, bring as large tumours for exhibition removed by the sub-peritoneal method without ligature.

Dr. BANTOCK, in his reply, expressed his astonishment that he could have been so misunderstood as he had been by Mr. Jessett, Mr. Edge, and Dr. Walter. The greater part of their criticism was absolutely irrelevant to his remarks. With regard to Mr. Jessett's objection to the elastic ligature

he had to say that in the first case it was of the greatest service to him and would always prove to be so when properly used. As to that barbarous instrument—the *serre-nœud*—which was objected to, on the ground—among others—that it caused so much pain, his answer was the words of his patient that very morning—viz., that she had no idea that the operation could be attended with so little pain. He could not accept the opinion that the sub-peritoneal or intra-peritoneal method was likely to yield the best results, as experience had proved the contrary, and the choice lay between the clamp or elastic ligature with the stump fixed in the parietal wound and total hysterectomy, both of which were extra-peritoneal methods.

Dr. SNOW, in reply, had omitted to mention a third advantage, which had originally suggested the procedure in Case 2: he had seen the peritoneum torn so that the flaps could hardly be brought together. This could not happen when muscle was included. He could not possibly see how Mr. Jessett could fear subsequent sepsis, if sufficient precaution were taken to asepticise the cervical canal; nor what objection there was to leaving behind a small portion of uterine tissue, as stated by Mr. Edge. Panhysterectomy should, he thought, be reserved for malignant cases, on account of the much greater risks. The case had done so well, that he should certainly be disposed to repeat the method.

COMPLETE REMOVAL OF FŒTUS AND SAC IN A CASE OF
ADVANCED EXTRA-UTERINE PREGNANCY. By A. MAYO
ROBSON, F.R.C.S., Professor of Surgery in the Victoria
University; Senior Surgeon, General Infirmary of
Leeds; Honorary President International Gynæco-
logical Congress.

IT is not my intention to invite a discussion on the pathology and classification of extra-uterine gestation, as the subject has been recently considered by a Fellow of the Society, Mr. Taylor, in his very instructive Ingleby

Lectures for 1898, and by myself in my Valedictory Presidential Address before this Society; nor do I propose to consider the treatment of the early stages of the disease, but to limit my remarks, first, to the report of a case in which I removed the entire foetal sac, together with the foetus, two months after the full term of pregnancy, and, secondly, to the treatment of advanced extra-uterine gestation generally.

Mrs. R., aged 29, was seen by me with her own medical attendant, Dr. W., on September 29, 1898, when she gave the following history:—She had had two children, the last five years ago. Since the birth of the last child she had been quite well, and had menstruated regularly until September 20, 1897, when she was unwell for three days, the loss being somewhat excessive. The next period was due on October 18, but nothing showed until three days later, after which metrorrhagia continued to January 15. On November 29 she received a terrible mental shock from suddenly finding her father dead. Almost immediately the metrorrhagia changed into profuse bleeding, and several clots were passed. As the bleeding continued Dr. W. was asked to see her for the first time on December 6, and it was then thought that she had had a miscarriage. No tumour could be detected on palpation of the abdomen, and the sound passed two and a half inches. On December 13, there was still no evidence of tumour, though the bleeding was continuing. At Christmas a tumour could be detected bimanually, and this had increased so rapidly that, when on January 15, she was seen by a specialist in consultation with Dr. W., the tumour was palpable above the pubes on the left of the middle line. The sound then passed to the right of the tumour, and Dr. W. thought it a case of myoma; but when he saw the patient again on February 7, the tumour reached to the umbilicus, and the sound still passed to the right; the diagnosis being then altered to one of pregnancy in the left horn of a bicornuate uterus, as the foetal heart sounds could be distinctly heard.

After January, there was no uterine discharge until June, when there was a slight "show," which soon ceased. In July, just a month later, a coloured uterine discharge again appeared, and from that time up to being seen by me in September there had been more or less metrorrhagia, and during the past four weeks this had been excessive and bright in colour. In January, the tumour steadily increased in size, and at the end of July she was again seen by Dr. —, the specialist, who then thought her seven months advanced in pregnancy, but on the same evening the foetal movements, which had at first been observed in February became more excessive and energetic, and labour-like pains came on so severely that morphia had to be given hypodermically.

From that time all foetal movements ceased. There was then milk in the breasts, and all the other signs of pregnancy. When seen by me on September 29, I found the abdomen occupied by a large tumour, and a bi-manual examination revealed the uterus pushed to the right, the fundus being easily made out separate and distinct from the tumour itself, and the uterine sound could be passed for a little over the normal distance. The roof of the vagina on the left was somewhat pushed down by the tumour so that the cervix was placed more to the right than to the left. Ballotement could not be obtained either from side to side or *per vaginam*. Auscultation failed to reveal either the sound of the foetal heart or the placental bruit. A diagnosis of extra-uterine gestation was made, and early operation was advised, since the foetus was manifestly dead, and the patient's health was becoming seriously deteriorated as the pulse was persistently rapid, from 110 to 120, and there were considerable loss of flesh, a hectic flush on the cheeks, and a temperature each evening.

On October 4, Dr. W. giving the anæsthetic, and Dr. Macrae assisting at the operation, I opened the abdomen in the middle line and found the foetal sac on the left of the uterus, from which it was separate and distinct. The

sigmoid flexure of the colon was crossing its upper part, and the omentum was adherent to the front of the sac. After packing sponges around, I opened the thin part of the sac in front and removed a quantity of dark, inodorous, grumous fluid, afterwards extracting the child. After a careful examination I found it would be possible to completely remove the sac. I therefore ligatured off the ovarian vessels externally, and made a pedicle between the uterus and the sac internally. I then detached the omentum, ligaturing several adherent portions, and dividing between ligatures. I then separated the anterior layer of the meso-sigmoid which was expanded over the sac and found that I could easily shell the tumour from its bed, the only difficulty occurring in one or two places where the posterior layer of the meso-sigmoid carried the large intestinal vessels and was rather adherent to the sac. After the separation of these adhesions I had a few vessels to ligature. The detached part of the sac was enucleated without difficulty. Although the peritoneum appeared to be perfectly dry I thought it wise to insert a glass drainage tube for twenty-four hours. The next morning there was so little discharge that it was felt safe to remove the drainage tube.

The wound healed by first intention and the sutures were removed on the seventh day. After the first day the temperature and pulse were perfectly normal, and recovery was uninterrupted. The patient is now in good health.

A quotation, Sir, from your own text-book (Macnaughton Jones' "Diseases of Women," p. 592), would seem to show that removal of the entire sac is not worth considering after the fourth month.

"When the gestation has not advanced beyond the fourth month, it is sometimes possible to remove embryo, tube, ovary, and sac by transfixing the broad ligament as in a simple ovariectomy. When the pregnancy has advanced beyond the fourth month, the placenta has become too large to be thus dealt with. The sac is then exposed, through an abdominal incision, the foetus,

placenta, and clot evacuated, the bleeding checked with sponges, the edges of the sac are then stitched to the abdominal incision, and its cavity drained. After the fifth month operation must be considered under two headings :—

“(1) The treatment of the sac.

“(2) The treatment of the placenta.”

Mr. Taylor, in his Ingleby Lectures, recommends removal of the placenta in tubo-abdominal pregnancy, and drainage of the sac in tubo-ligamentary pregnancy, but does not advocate removal of the sac, which he describes as unnecessary and dangerous.

In Dr. Kelly's work, “Operative Gynæcology,” vol. 2, p. 457, complete removal of the sac is advocated wherever it is practicable on account of the danger to life from the possible infection of the large placental mass, and from the danger of secondary hæmorrhage due to the breaking down of recent thrombi when the placenta is separating piecemeal at a later date.

From the description I have given, it will be recognised that the operation presented no extraordinary difficulty beyond what would have occurred in removing a large multilocular or dermoid ovarian cyst that had invaded the meso-sigmoid; in fact, I have performed many ovariectomies that have presented much greater difficulties, and which have recovered without unusual complications, as did the case under discussion.

I would offer for discussion the following points in the treatment of advanced extra-uterine pregnancy.

On opening the abdomen, if the foetus be found among the intestines, the cord should be divided and the foetus removed; if the placenta be attached to the expanded tube it can probably be removed, as suggested by Mr. Taylor, but if spread over the intestines or large pelvic vessels, its removal will be unsafe, and gauze packing of the placental area and drainage will be the safer method, the placenta having been cleared of blood, and cleansed as much as possible.

If the foetus is enclosed in a sac, this should be opened at its thinnest part and the foetus extracted ; the sac should then be carefully examined to ascertain if its removal is feasible. If thought practicable, the preliminary ligature or clamping of the uterine and ovarian arteries will simplify the subsequent procedures. All intestinal and omental adhesions must be dealt with by peeling them off where feasible, and ligaturing where necessary. The deeper parts of the sac will be easily dealt with, if, as is usual, the attachment of the placenta is at the upper part. It will do no harm if very adherent portions of the sac be left, should their detachment present unusual difficulties. Subsequent drainage for twenty-four hours with a glass tube is, to my mind, both safe and useful in these and similar cases, and with proper antiseptic precautions is not, in my experience, attended with risk of infection.

CASE OF ECTOPIC GESTATION. By J. MACPHERSON
LAWRIE, M.D.

Mrs. W., aged 35, consulted me on September 16, 1898, on account of pain in the right ovarian region, associated with a swelling which she had recognised herself.

She had been married for nine years and had three children, the youngest $4\frac{1}{2}$ years old.

The periods had been regular since the birth of the last child until six weeks before she came to see me ; since then she had suffered from a constant hæmorrhagic discharge. This was moderate in amount, and latterly partly purulent.

On one occasion something came away having the appearance of a large clot of blood, rather dark in colour, and presumably composed of decidual membrane.

On examination the uterus was found somewhat enlarged, and pushed over to the left by an irregular swelling of firm consistency, and rather bigger than an orange.

On September 25 the abdomen was opened. The right

side of the pelvis was occupied by a swelling which was intimately adherent to the intestines. In the process of separation the mass ruptured, discharging a great deal of black clot into the peritoneal cavity.

The abdominal viscera were protected with sponges, the patient raised into the Trendelenburg position, and the clot removed. Separation was cautiously carried out, and completed by passing chain sutures through the broad ligament and cutting through the tissues on the distal side. On further examination a cavity as large as a hen's egg, and containing blood clot was demonstrated in the ovarian portion of the swelling, and the walls of this space were completed by the expanded end of the Fallopian tube and some portions of adjacent bowel.

Patient made a good recovery.

A report from the Clinical Research Association confirmed the diagnosis.

The case seems worthy of record as a possible example of ovarian pregnancy, and I thought it sufficiently interesting to bring before the Society.

The PRESIDENT said that the two important points dealt with in Mr. Mayo Robson's paper were those of the propriety or feasibility of the removal of the sac, and the management of the placenta. With regard to the opinion quoted by Mr. Mayo Robson out of his—the President's—work, the view there expressed was not his own, but that of Mr. Bland Sutton, whom he was happy to see present. On both points, as regards placenta and sac, in these advanced stages of the pregnancy, authorities were divided, and such a case as Mr. Mayo Robson's was valuable, as showing the advantage of removal of the sac.

Mr. BLAND SUTTON remarked that it was very dangerous to make dogmatic statements concerning the best methods of operative treatment from a particular case. In the ventral form of tubal pregnancy, as in the case under discussion, it was easy to remove the sac, especially as the foetus was dead. He had himself reported a case in which

he had successfully removed the sac and placenta with a *living* child at full term (*Trans. Obstet. Soc.*, 1898). To dissect out the sac of a tubal pregnancy in the advanced mesometric stage was a difficult and usually fatal undertaking. Mr. Sutton was sure that when Mr. Mayo Robson had more examples of tubal pregnancy to deal with in the advanced stages he would realize the dangers of dissecting out the sac, except in the ventral forms, where it was of course the right method to carry out. The true nature of the ventral pregnancy had only been recently appreciated, thanks to Taylor's observations, but these exceptional cases did not invalidate the principles laid down in the chapters to which reference had been made.

Dr. BANTOCK expressed his concurrence with Mr. Bland Sutton's views. The first case he saw was at St. Thomas's Hospital, in which it appeared that the foetus escaped with its amniotic sac into the general peritoneal cavity, and then went on to full term, being alive at the time of operation. The placenta covered in the pelvis on the left side, attached to the left side of uterus, broad ligament and intestines, and any attempt to remove it must have proved disastrous, as an accidental disturbance of a very small portion of its edge caused very troublesome bleeding. He had seen only one case of rupture into the broad ligament, and the case showed that the proper treatment was opening the sac, emptying it of its contents, stitching it to the parietes, and draining. He had described one case before the Society, in which he removed the whole sac, containing a large child, as easily as if it had been an ovarian tumour with a broad pedicle. He had brought forward this case to support his view that when the pregnancy occurred in the uterine end of the tube rupture usually took place about or within the thirteenth week, that when it occupied the outer end of the tube it escaped through the mouth of the tube, but that when the middle portion was the seat of the pregnancy it might go on to full term without rupture.

Dr. WALTER pointed out the great difference there was

in operating on advanced cases of ectopic pregnancy after the foetus was dead. To remove the sac under those circumstances was not attended by the same danger as when the foetus was still living.

Dr. F. EDGE said he had had the pleasure of hearing Mr. Taylor deliver the Ingleby Lectures, which marked a step in our knowledge of the subject. In tubo-abdominal cases it was pointed out that the sac and placenta were almost entirely tubal, and that the blood-vessels were ovarian and uterine, and if these supplies were controlled the case was in the surgeon's command.

Dr. ARTHUR GILES thought the discussion would be of permanent value, and it would impress on all present the distinction, referred to by Mr. Mayo Robson, and unfolded with singular clearness by Mr. Bland Sutton, between the different kinds of sac met with in ectopic pregnancy at term, namely, the foetal sac in the rare cases of abdominal pregnancy, and the sac formed by expanded broad ligament occurring in intra-ligamentous pregnancy. He had a vivid recollection of the case mentioned by Mr. Sutton. He had himself operated in a case of intra-ligamentous pregnancy at the fifth month, and had removed the entire sac. In that case the foetus had evidently been dead about a fortnight; but even with this favourable circumstance, the removal of the sac was not an easy matter, and left a bare space, which could not be covered by peritoneum, on the side and floor of the pelvis. He would ask Mr. Sutton whether such cases, when the foetus was dead, formed a general exception to his rule that no attempt should be made to remove the sac in cases of intra-ligamentous pregnancy.

The PRESIDENT asked Mr. Bland Sutton what, in his experience, was the relative frequency with which intra-ligamentary ectopic gestation occurred as compared with the other forms, tubal, ovarian, or interstitial. He believed that true intra-ligamentary gestation was very rare. He took it that Mr. Bland Sutton referred in his remarks to such intra-ligamentary gestation, and of the sixteen cases he

had seen did he mean that twelve of these had begun as intra-ligamentary, and was he perfectly satisfied of this fact when he operated? The President cordially thanked Mr. Mayo Robson for his paper, and conveyed to him the indebtedness of the Society for the discussion it had given rise to.

THE BRITISH GYNÆCOLOGICAL SOCIETY.

THURSDAY, MARCH 9, 1899.

DR. H. MACNAUGHTON-JONES, PRESIDENT, IN THE CHAIR.

PRESENT : 50 Fellows and Visitors.

The following gentlemen were elected Fellows of the Society :—J. M. Coates Cole, M.R.C.S., Curaçao, Dutch West Indies ; William Henry Thornhill, M.D., Lieut.-Col., I.M.S.

The following were proposed for election :—Edward Desmond Fitzgerald, M.R.C.S., Folkestone ; Richard Jocelyn Swan, M.R.C.S., London.

SPECIMEN.

Dr. H. JELLETT (Dublin) showed a myomatous uterus undergoing carcinomatous degeneration of the body. The specimen had been removed from a patient aged 54 years. For the past four years she had suffered from pain and hæmorrhage, but had not obtained medical advice. Mr. Jellett first saw the patient in October, and she then was confined to bed in consequence of a severe attack of hæmorrhage. She had considerable pain, and a profuse more or less fœtid discharge. The uterus was about the size of a cocoa-nut. The cervix was healthy. On October 22 the uterus was removed. At first he attempted to do so *per vaginam*. However, whilst separating the bladder and rectum, the finger passed into the uterine tissue, which was extremely soft and friable. The cervix then tore off, so preventing any attempt to pull the uterus downwards.

The abdomen was then opened, and the uterus removed from above, without much difficulty.

On microscopic examination, it was found to be a myomatous uterus undergoing carcinomatous degeneration. The malignant growth had started in the glands of the endometrium, and penetrated through to the peritoneal coat.

The patient recovered rapidly from the operation, and for a time gained in weight, and felt very much better. Within the last fortnight, however, the previous symptoms of hæmorrhage and pain returned, and on examination a recurrence of the growth was found in the pelvis and in the abdominal wound.

The PRESIDENT observed that cases of this kind were always of interest. He showed such a case some two years ago, in which the uterus the size of a foetal head was removed from a multipara by vaginal hysterectomy. The patient lived for six months, and then she died; although no *post-mortem* examination was made, the probability was that she died of recurrence of this disease.

Dr. INGLIS PARSONS asked Dr. Jellett whether in this case the carcinoma began separately or was to be traced to a degeneration of the myoma. He had a case of this kind at the Chelsea Hospital for Women. She presented a polypus hanging from the cervix, and also had a carcinoma of the cervix; but whether the latter began independently, or as a degeneration of the myoma, he could not tell. But, in any case, such instances were a strong argument in favour of early removal.

Mr. BOWREMAN JESSETT believed that myomata take on malignant degeneration much more frequently than was generally supposed. When operated on early enough such cases did very well.

Dr. JELLETT, in reply, said that when the operation was begun, by the vagina, the finger went through the uterus into the uterine cavity, as if through putty, while separating the bladder, and while separating the rectum the same thing happened; so he had to complete the operation through the abdomen.

THE MODERN DOCTRINE OF BACTERIOLOGY, OR THE
GERM THEORY OF DISEASE, WITH SPECIAL REFER-
ENCE TO GYNÆCOLOGY. By GEO. GRANVILLE BAN-
TOCK, M.D., F.R.C.S.E.

MR. PRESIDENT AND GENTLEMEN,—It will be in the recollection of those who were present at the meeting of this Society on March 10 last that Dr. Newman gave us a most interesting bacteriological demonstration, and I apprehend that there must have been few, if indeed there were any, who did not admire, as I did, the admirable lucidity of his exposition of the subject, and the candour with which he admitted the difficulties which the investigator had to encounter. For my part, I have ever since felt indebted to him. I listened to him with the liveliest satisfaction, for his discourse went far to confirm the views I hold, and indeed have long held, on the modern doctrine of bacteriology. I feel sure that Dr. Newman will not deny me the right to put my own interpretation on the facts he gave us.

I am quite aware that my views will probably be regarded, by a majority of those present, as very heterodox, but that does not deter me from giving expression to them and boldly courting publicity, notwithstanding the belief that they are only too far in advance of those held by my contemporaries for immediate acceptance. I am very anxious to call attention again to this subject, for I am driven to the conclusion that few of you took any interest in a discussion which occupied the correspondence columns of the *Medical Press and Circular*, a little over two years ago, on the modern doctrine of Bacteriology. It is a fact worthy of note that no follower of Lister, no modern bacteriologist, dared to enter into that discussion, or, if there were such an one, had the courage to disclose his name.

Before proceeding further it will be well to define what I understand to be the modern doctrine of Bacteriology. It is this, viz., that in the majority of, or as some extremists

would seem to hold, all acute diseases, the condition is due to the influence of a specific so-called pathogenic micro-organism. Hence we hear of the typhoid bacillus, the diphtheria bacillus, and so on. This is the doctrine that I proceed to combat by propounding the very opposite doctrine, that *the presence of these various micro-organisms is the result and not the cause of disease*—in other words, that the bacilli are found in association with the disease *because of the disease*, or that the disease furnishes the conditions necessary for the presence of the special micro-organism.

You may have overlooked or forgotten a very important fact told us by Dr. Newman. He told us that in the examination of the vaginal discharge of a healthy woman, obtained for him by one of his colleagues, he found a great variety of organisms, and amongst them the *staphylococcus pyogenes* and *streptococcus pyogenes*. In the abstract published in the JOURNAL of this Society, he tells us that "more than thirty different species of micro-organism have been isolated from the female genital tract, or from discharges." This is confirmed by numerous observers. Of the most recent publications that I have seen I refer to that of Dobbin, appearing in the *American Journal of Obstetrics* for August last and of Dr. Whittridge Williams who tells us that in the vaginal discharge of pregnant women "pyogenic bacteria were found in the vulvar secretion in nineteen cases (76 per cent.)" and within the vagina in 48 per cent. Among those enumerated by Dobbin we find, in addition to the two just mentioned, the *bacillus coli communis*, the bacillus of tetanus, *Klebs-Loeffler bacillus* of diphtheria, and the *bacillus typhosus*. Dr. Newman adds that "the most frequently present is the *staphylococcus pyogenes aureus*, which is the commonest of the group of *suppurative bacteria*." Here we have the doctrine plainly indicated—and I need not trouble you with any more examples—viz., that the *staphylococcus pyogenes* and the *streptococcus pyogenes* are, as the name implies, the cause of suppuration. A strange part of this doctrine is this, viz., that the vagina is said to

be the habitat of a bacillus—Döderlein's—which "is inimical to the presence or prolonged existence of so-called pathogenic bacilli"—like the good fairy in the pantomime defeating the machinations of the wicked fairy.

A great deal of light has been thrown on this subject within the last three or four years.

I presume you are all acquainted with the fact that Dr. George Stoker has been treating chronic ulcerative conditions, with the most gratifying results, by means of oxygen gas. Now it happened that in the early days of his work he had under his care a woman who had been bedridden for many years with a large ulcer involving the whole of the instep of each foot. These ulcers were almost precisely alike in form and extent, and it was suggested to him that one should be treated with corrosive sublimate and the other with oxygen gas, for the purpose of comparison. In a very short time it was easy to perceive a difference between these two ulcers; for while in the former the surface was certainly cleaner than at the beginning of the experiment, yet it presented an ashy-grey appearance, and exhibited very little sign of healing, the latter presented a healthy granulating surface with a good margin already healed over. A gentleman from the Clinical Research Association now appeared upon the scene, and took some of the discharge from each with the view of obtaining a culture. This was the astounding result, viz., that the first was—to use the current language—sterile, while the latter (oxygen case) gave a copious crop of bacteria. And what, think you, was the organism which stood out most prominently? It was this very *staphylococcus pyogenes*, which, with the *streptococcus pyogenes*, we are told, is the prime cause of suppuration. From that time Dr. Stoker took up the study of bacteriology as applied to this part of the subject, and at the Annual Meeting of the British Medical Association in this city, in 1895, he gave an account of his work. As reported in the *Journal* of the Association, one of the important points to which he called attention

was thus expressed : “ (3) The bacteriological aspect of one case was surprising and rather upset one’s preconceived ideas.” Dr. Stoker returned to the subject at the next meeting—at Carlisle—but I fear his communications have had few readers. Having, from the time of the incident above referred to, taken to the study of bacteriology as applied to this subject, Dr. Stoker found that whenever the healing process appeared to falter, either under a diminished or an insufficient supply of oxygen, this was an indication for an increase, or for inoculation from a more healthy sore ; and his observations led him to the conclusion that *in proportion as the staphylococci* were numerous and well developed so the healing process progressed. What, then, is the natural, common-sense conclusion from this ? It is this, that the *staphylococcus pyogenes*, which, as its name implies, has hitherto been regarded as the prime cause of suppuration, and therefore of the destructive process, must henceforth be regarded as, to say the least, doing no harm, and, it may be, as playing a beneficent rôle in the economy of nature, and, in non-technical language, may be looked upon as playing the part of a scavenger.

There are three diseases of which we probably know more than of any others. They are variola, vaccinia and syphilis. Yet no one has ever discovered a bacillus in connection with either of them to whose influence the disease could be attributed, although, under the prevailing doctrine, numerous efforts have been put forth in search of it. These investigators have, all the while, overlooked the fact that these diseases are due to a specific material poison, which can be handled, and can be conveyed from one subject to another by inoculation. There is no mystery about this as there is about the natural mode of transmission, or should I not rather say propagation, of these diseases, or of such diseases as typhus, typhoid, measles, scarlatina, &c. Take the case of smallpox, for instance. We know that if we insert an almost infinitesimal quantity of the contents of a smallpox vesicle, at the proper stage, under the skin of a

perfectly healthy subject, an enormous multiplication of the poison takes place, as exhibited in the innumerable vesicles which appear on the surface of the body, each vesicle filled with a fluid possessing the same virulent properties as the original vesicle—in other words, an attack of smallpox—presumably under the influence of what we, in our ignorance, call a chemico-vital process. That this extraordinary state of things should be due to the action of a special form of bacillus passes one's comprehension and is incredible.

Vaccinia, under the same process, produces such a change in the constitution of the individual subjected to it that, in at least a majority of cases, and for an indefinite period of time, it renders that subject proof against the inoculation of itself and even of small-pox.

Syphilis, I presume you will allow, stands in the same category, and needs no special treatment at my hands beyond the statement that it is now well known that it can be conveyed to another by one who has no external evidence of disease—no evidence of primary disease—and especially by a mother to her child, as in the case of small-pox.

Let me now call your attention to the case of diphtheria. You all know the modern doctrine, viz., that it is due to the influence of a specific bacillus—*Loeffler's*.

Many observers of eminence and authority in this field concur in denying the connection of the *Loeffler bacillus* with diphtheria as cause and effect. I am bound to accept as matter of fact the statements made as to the association, even in a majority of cases, of the *Loeffler bacillus* with diphtheria, for they are not questioned; but to reverse the proposition, and say that their presence is the result of the disease, appears to me to be the more sound reasoning.

It will probably be regarded as the rankest heresy when I express any doubt as to, much more a decided opinion against, the influence of the *gonococcus* as the prime agent in the production of gonorrhœa. I regret that I am unable to give the exact reference to the publication, but I have

somewhere read that gonococci have been washed and deposited in the urethra of a healthy subject without producing any effect. As in the case of diphtheria, numerous observations are on record of cases of *gonorrhœa* without *gonococci*, and *vice versâ*. Dr. Newman tells us that "it is now well known that the gonococci diminish in number as the disease becomes chronic." That is to say, that as the disease becomes less acute the amount of the poison—the food on which they live—diminishes in quantity, and the gonococci are less numerous. It is marvellous, if it were not ridiculous, to what lengths some will go in their endeavour to bolster up a favourite theory. As an example take the following. To account for the recurrence of this disease in a subject who had presented no sign of it for several years, and in support of the doctrine of latent gonorrhœa, it has been suggested that an old decrepit gonococcus has been roused into activity by sexual excess, and thus there has been brought about a recurrence of the disease—as probable as the case of the fatted calf that had been in the family for many years.

I am also aware that I am a heretic as to the importance of gonorrhœa in the production of pelvic inflammations, but I claim Dr. Newman as at least a tacit supporter; for has he not these words without adverse comment? "It is said that *gonococci* are present in one of every four cases of pyosalpinx." Surely that is a very small proportion on which to establish the proposition that gonorrhœa is answerable for the majority of cases of pyosalpinx. On the contrary, it supports my contention that it is only a factor in the minority of cases.

Quite recently Dr. Robinson read a paper at the Obstetrical Society of London, in which he stated that bacteriological observations revealed the presence of an organism indistinguishable from the *gonococcus* in cases of "Vulvitis in children," in as many as seventy-six per cent. "This result," says a writer in the *Medical Press and Circular*, "is so startling that, rather than the otherwise inevitable conclusion, one is

tempted to question the diagnostic value of the diplococcus in question. . . . Clinically the evidence is opposed to the gonorrhœal origin of the affection, unless we concede that gonorrhœa in the young runs a much milder course than in the adult, no proof whereof has as yet been furnished Observed cases of unquestionable gonorrhœa contracted by children as the result of rape do not support the assumption that the disease is milder in them than in adults, and we are driven to challenge the identity of the organism upon which the author has founded his conclusions."

Typhoid fever furnishes a fertile field for the discussion of this subject, and Dr. Newman tells us that the *typhoid bacillus*—to say nothing of tubercle, leprosy and others—has been isolated from the genital tract.

[After some observations on the typhoid epidemics at Maidstone and King's Lynn, and the failure of experts to find the typhoid bacillus in these cases, Dr. Bantock proceeded :]

You are doubtless aware that it is generally admitted by bacteriologists that the skin of the hands, and indeed all parts of the body, though not all equally, teem with a bacillus to which the name *Staphylococcus albus* has been given; that this bacillus is supposed to be possessed of pathogenic properties, and that elaborate processes have been invented for the purpose of destroying it. I refer especially to that described by Howard Kelly as perhaps the most elaborate. You are probably also aware that no process hitherto invented has yet succeeded in getting rid of these micro-organisms, so deeply are they situated. Hence the skin itself—including the hands of the operator and that part of the patient involved in the operation—is said to be in a septic condition requiring more or less elaborate treatment. I might refer to innumerable observations by different workers in this field; but one will be sufficient for my purpose, and I take a paper published by Mr. Lockwood (*British Medical Journal*, September 17,

1898), entitled, "Further Report upon Aseptic and Septic Surgical Cases." In that report Mr. Lockwood tells us that, with regard to his hands, "the skin was aseptic thirty-five times and *septic* six. . . . Once it was some variety of *Staphylococcus albus*." Just before he "had operated upon a case of ruptured perineum in which there was a vaginal discharge." One would like to know what became of that case, in which we may assume there must have been an abundance of micro-organisms—such as the *Staphylococcus* and *Streptococcus* (pyogenes), which so abound at the vulvar opening whenever there is any discharge.

With regard to the patient's skin, he says, "The skin of the scrotum is exceedingly difficult to disinfect, and with the exception of the scalp, has a higher proportion of sepsis than any other." "Nevertheless, the scrotal wounds have done exceedingly well. For instance, we have only had one suppuration in forty-three wounds made for the cure of chronic hydrocele of the tunica vaginalis. In the case which suppurated the patient . . . passed urine into his dressings." Of "another scrotal operation—that for the cure of varicocele," he says: "Since 1894 I have done twenty-five, and none of them suppurated. *Thus the sepsis of the scrotal skin has evidently a very small influence upon the repair of scrotal wounds.*" What an extraordinary comment!

Now let us see what is the meaning of this word *sepsis*. It is as follows, as given in Funk's "Standard Dictionary of the English Language:" "(1) Poisonous putrefaction causing noxious effects on the vital properties or texture of organs. (2) Infection from a putrescent virus containing microscopic organisms, as *sepsis* from putrid matter or bacteria in a festering wound." The equivalent, then, of this, in plain English, is "poisonous" or "poisoned." I give Mr. Lockwood his choice of these definitions. Does he contend that the skin of a healthy subject, in any part of the body, is in a condition which answers to either of these definitions? But this is the natural condition of the skin. How absurd, then, does it not all seem! How much more

rational and logical the view that these organisms are there for a specific and beneficent purpose! How is it that he has not perceived the force of his own conclusion in the words I have already emphasised and now repeat? *Thus the sepsis*—equivalent, as we have just seen, to the poisonous or poisoned condition—“*of the scrotal skin has evidently a very small influence upon the repair of scrotal wounds.*”

On this subject a very interesting abstract, furnished by its Berlin correspondent, has been published in the *Medical Press and Circular* for November 23, 1898, under the title, “The Bacteriological Condition of Wounds under Antiseptic and Aseptic Treatment.” Dr. Kopinski, having concluded a series of bacteriological investigations on animals, has arrived at certain definite conclusions, as follows:

“The performance of operations, whether aseptically or anti-septically, assures no absolute sterility of wounds, and it is difficult to say which of the two methods, in this respect, is the better.”

“Antiseptic means in operations on healthy tissues must be given up, as they do not approach an attainable degree of sterility so nearly as asepticism does.”

“In healing by first intention, both saprophytes and pathogenic micro-organisms are retained in the wound.”

“The regular course of wounds and their healing in the presence of pathogenic micro-organisms is explainable by the low degree of the virulence of the latter.” (I presume he has up till now been speaking of definite observations, but now we get an opinion and a purely hypothetical explanation.)

“In a wound healed by first intention both *Staphylococcus aureus* and *albus* were met with.”

“Skin cocci frequently found their way into wounds, and, as a matter of fact, the skin showed itself to be a chief hindrance to sterility, as its microbes were deep-seated, and on this account were only removed with difficulty.”

Hence it follows that sepsis, according to Mr. Lockwood’s phraseology, or the presence of the *Staphylococcus pyogenes*

aureus itself has evidently a very small or no influence upon the repair of wounds, and surgery has not ceased to be a possible art. You will observe that, although Kopinski believes in pathogenic bacteria, he does not employ the word *sepsis* but *sterility*, which has a very different meaning, as I have shown.

Probably it will not be news to you that I adopt none of the elaborate precautions of Dr. Howard Kelly, or the less complicated method described by Mr. Lockwood, beyond the simple washing of my hands previous to operation, and of my instruments after. While I am content with making my hands as clean as an ordinary washing with soap-and-water will make them, thus removing Lister's "grosser forms of septic mischief," I fear Mr. Lockwood will think they must be horribly septic. Yet with this simple precaution I stitch up a recent rupture of the perineum, it may be some hours after its occurrence, merely taking the additional precaution of wiping off any lochial discharge from the raw surface with a sponge and then placing another in the vagina to keep back the discharge, and I have never had a failure. I make a fresh wound in a ruptured perineum, stitch it up and obtain union by first intention. If I happen to pull a stitch too tight, the tissues become strangulated, their vitality is lowered, and I may get some suppuration in the track of the suture, but so uniform have been my final results that I have never had a case break down. In a case in which the whole perineum and vulva were in a state of extreme irritation from the relaxed or irritable state of the bowels—due to the exposure of the mucous membrane of the rectum—and without any precaution beyond wiping the surface with a warm, wet sponge, I secured union by first intention, the diarrhoea ceasing from the moment of the completion of the operation. I dissect out vulvo-vaginal glands, obliterating the cavity in stages; I remove growths from the vulva, stitching up the wounds, and have never failed to obtain union by first intention. I sew up a bilacerated

cervix and have yet to record a failure. I have excised a considerable number of breasts, and the one in which I have failed to obtain union by first intention was the first and only one I did under the carbolic spray. So uniformly favourable have been my results since that case that I have come to regard it as one of the most simple operations in surgery. Moreover, in one case in which it was impossible to bring the flaps together I left the wound freely exposed to the air, with the result that the healing process went on as well as, if not better than, under the most approved dressing, and, aided by two or three skin grafts, the wound healed over completely. This in a public hospital. I have removed sebaceous cysts from the scalp—which, according to Mr. Lockwood, most abounds in septic micro-organisms—without any trouble resulting. I have, either by accident or of set purpose, opened the small intestine, the rectum, urinary bladder and vagina in abdominal operations, in which the *Bacillus coli* must, for a short time at least, have had free access to the peritoneal surface, without any harm. And if I obtain these good results by the adoption of simple cleanliness, in the common, every-day acceptation of the term—and such arrangements as any well-ordered private house can afford—where is the necessity for all those elaborate precautions which we hear of in the case of private and even public “installations” as they are called—for instance, “the floor of encaustic tiles, well-laid parquet thoroughly saturated with wax and highly polished, cement or highly-glazed linoleum,” all angles of walls rounded off, the walls and even the shelves and doors covered with a hard, smooth cement, coated with some kind of enamel, such as Flicoteaux’s “lacquered paint”; the sterilising of instruments and dressings, the spraying of the room for an hour or two before the time of operation, and so forth—precautions and preparations so eloquently satirised by Mr. Treves in “The Ritual of an Abdominal Operation?” For instance, “These words ‘strict antiseptic precautions’ have been with many a kind of mystic writing on the wall. . . .

Those who come after us will read with interest of the operating theatre built like a diving tank, of the glass table for the patient," so different from his own which is not even "bacteriologically clean," "of the exquisite ceremonial of washing on the part of the operator, of the rites attending the ostentatious cleansing of the patient, of the surgeon in his robes of white mackintosh and his india-rubber fishing boots, and of the onlookers beyond the pale who are excluded, with infinite solicitude, from the sacred circle as septic outlaws." . . . "This exhibition may be scientific, but it is no part of surgery. It is more allied to a fervent, idolatrous ritual brought down to the level of a popular performance."

But does the observance of this elaborate "ritual" yield any better results than the observance of simple cleanliness? I aver that it does not. The operations I have named may be regarded as test operations; for are we not told that the orifices of the mucous passages especially swarm with bacteria—the *Bacillus coli*, for instance—and that vaginal discharges contain the *Staphylococcus* and *Streptococcus pyogenes* in abundance? And how are you going to carry out these elaborate precautions in a private house—the home of the patient—where cases do so well? I often wonder how the men who hold these views ever dare to operate on a cleft palate or hare lip, seeing that the mouth contains a greater variety of bacteria than any other part of the body, from the most innocuous to the most virulent, so-called.

There was a time when the *Bacillus coli* was regarded as a most virulent microbe—a veritable wild beast—and when, if the intestine, by an unlucky chance, got wounded in the course of an abdominal operation and the patient died, the death was attributed to the baneful action of this organism. But "a change has come o'er the spirit of the dream." Here I must interrupt the thread of my discourse to pay a tribute of esteem and respect to the memory of the late Professor Kanthack, for he it was who, as far as I

know, was the first to put us on the right track with reference to the *Bacillus coli*. It was at the meeting of the British Association at Liverpool that he drew attention to the subject, and showed that this organism is a natural inhabitant of the digestive tract, and that its absence or reduction in number must be regarded as a departure from perfect health.

Thus it has come about, from the observations of Dr. Stoker, that the *Staphylococcus pyogenes* can no longer be regarded as the prime cause of suppuration, but rather as a beneficent organism; from the investigations of the late Professor Kanthack, that the *Bacillus coli* must be relegated to the same category; and from the observations of a host of investigators, that the *Staphylococcus pyogenes*—and even the streptococcus—is found in conditions consistent with at least apparent health. Need I refer again to the case of the mouth, which in the recesses between the teeth, or in the cavity of a hollow tooth, furnishes, under favourable conditions for their development, abundant evidence of the presence of all these so-called pathogenic organisms: or, again, to the biological treatment of sewage? And if these things be true, as they are admitted to be, can I be wrong in enforcing the view that the modern doctrine of bacteriology is simply a case of “putting the cart before the horse?”

But it has been affirmed that Nature has provided a wonderful mode of escape from the ravages of these noxious organisms, and has provided us with an arrangement for their destruction. I refer to the doctrine of phagocytosis of Metchnikoff, to which Sir Joseph Lister (as he then was) pinned his faith less than three years ago. I never could accept this comforting doctrine. It was far too circumstantial for my ideas of what was possible in the way of microscopical demonstration, much too clear to be regarded as anything but the product of a lively imagination, much too like seeing through a milestone for my acceptance. I take credit to myself for my unbelief, for the theory is now almost universally discredited.

But I do not ask you to accept my estimate of it. Listen to what Professor Buchner said of this absurd doctrine at the Munich Medical Society last year, as published in the *Medical Press and Circular* of April, 1898. After pointing out that this theory, immediately on its publication, "had gained almost universal professional approval," that he himself "was for a time one of its staunchest supporters," but that "many facts emerging into light" had induced him "to review" his "judgment in regard to it," he says, "I now believe the theory of phagocytosis as propounded by Metchnikoff and his disciples to be insufficiently supported by evidence. . . . Lest it be thought that prejudice has aught to do with this criticism, permit me, gentlemen, to recall a few remarks I made about nine years ago: 'Metchnikoff, by his theory, has enriched physiological and morphological knowledge . . . his theory reveals how disease germs are combated by certain cells whose function in the animal economy has hitherto remained an impenetrable secret . . . his theory has fathomed the mystery of infection.' No doubt," he continues, "language such as this is not the utterance of sober reason but of reason intoxicated by enthusiasm." "Metchnikoff's explanation is, therefore, a fable," is his verdict. He closes his review by giving expression to "the cardinal article of" his "creed," viz., "that all theories must be solely and wholly deduced from objective, verifiable data, and that only in the experimental and experiential methods of investigation lies the true principle of scientific progress." I commend this to our modern bacteriologists.

A French proverb says, "It is ridicule that kills." Regarding the use of this weapon as quite legitimate under the circumstances, I dare ask the question: What can be more absurd than the practice of wiping out with a so-called antiseptic solution, or destroying with the actual cautery the lining membrane of that portion of the uterine canal which, in the stump of a supra-vaginal, extra-peritoneal hysterectomy, extends between the face of the

section and the constriction of the canal formed by the encircling wire of the *serre-nœud*, lest the bacilli said to inhabit the utero-vaginal tract should infect the wound ; or the peculiar practice of one operator, who in a simple ovariectomy will not use an india-rubber tube attached to the trocar with which he empties the cyst of its contents, lest germs should be sucked into the cyst he is about to remove ? These are the things that are done at the dictation of the germ theory.

[After a brief reference to the plague, Dr. Bantock proceeded :]

Coming now to the question of tuberculosis, of which we hear so much at the present day, and which is so confidently attributed to the ravages of the *tubercle bacillus*, I claim that this disease supports my doctrine. You all know what a "miserable fiasco"—Dr. Goodall calls it the "tuberculin fiasco"—experience proved Koch's treatment to be. The literature of this subject may yet supply the materials for a most interesting chapter in the history of medicine at the close of the nineteenth century—a chapter in which the historian may wax eloquent on the "intense emotion which had seized, not only suffering, but healing humanity" on the announcement of the discovery, the exaggerated hopes that were entertained of it, the prophecies that were indulged in, the rush of medical men to Berlin in the endeavour to be first in the field, and of deluded patients in the vain hope of relief, then the slow but sure awakening to the dismal reality of its failure, and the universal discredit into which it fell. This fluid of Koch's was intended to kill the bacilli, but it was soon found that in too many instances it had the very opposite effect of killing the patients—twenty-seven or twenty-eight in Berlin alone, according to Virchow, in the course of two or three months. It was shown that the injection of this fluid into a healthy subject produced little or no effect, but into a tuberculous subject it produced, in a few hours, what was called a violent "reaction," and that this reaction was in many

cases attended with the production of a fresh crop of tubercles especially affecting the serous and mucous membranes. Virchow, speaking of these new eruptions after the injection of Koch's fluid, and resting on the assumption that "all tubercles are produced by bacilli," says of one particular case of pulmonary tuberculosis in which "the so-called epicardium" was affected, that "there was no alternative but to suppose that the germs had reached the place by way of metastasis. How could we help thinking of metastatic processes here, and conjecturing whether, in fact, the bacilli had not been mobilised, and whether they had not been diffused *through the body* by a process of infection? And since, as you know, Dr. Koch himself considers the bacilli to be sufficiently refractory to his remedy—and *we have not found that they are destroyed*—the possibility must not be overlooked" that "by a process of softening, whereby the products of disintegration are rendered more fluid," this metastasis takes place. Does not this lend countenance to the doctrine I hold, viz., that the injection of this fluid is only so much added to the amount of the specific poison with which the system is already impregnated, and that hence the bacilli are found in all parts of the body, following their food, as fish find their way into the overflow, in cases of flood, or advance and recede with the tide? The acute symptoms which follow the injection of this fluid point clearly in this direction, as does their subsidence so soon after on the exhaustion of the supply, provided the dose be not a lethal one.

What, then, should be the remedy? This, viz., not to endeavour to destroy the bacilli, but to maintain the vital forces and processes at their highest state of efficiency by providing such as are already possessed by, or are pre-disposed to tuberculosis, with pure air, abundant light, nutritious food, and in a word all the conditions that tend to the maintenance of good health. This is actually the method of treatment now in vogue. But not because, as has been put into the mouth of the Marquis of London-

derry, at the opening of a hospital for consumption, "the best germicide to kill off the microbe was to provide air, light and sunshine," for we now know that these conditions favour their growth.

I call your attention to the fact that many cases of so-called tubercular peritonitis have been cured by opening the abdomen and removing the fluid contained therein. I specially direct your attention to the case of a young lady, aged 16, on whom I operated, on March 25, 1895. In making the incision through the thickened parietes, and just below the umbilicus, I cut through several deposits of cheesy matter, and exposed a large brain-like tumour, several pounds in weight, involving the omentum. As it was impossible to entertain any idea of removing the tumour, I sponged out about a pint of fluid lying in the lower part of the abdominal cavity, and then closed the wound, two or three of the sutures involving these cheesy masses. The wound healed by first intention. Previous to the operation the patient was much emaciated, her hair was falling off, and she suffered from a peculiar form of diarrhœa, with very offensive evacuations. I put her on an absolute milk diet—not sterilised—until the evacuations assumed a healthy character, and improvement set in so rapidly that she returned home on the twenty-sixth day. She is now in perfect health, well nourished and with an abundant crop of hair, and all trace of the tumour and of the deposit in the parietes has disappeared. That this was an example of tubercular disease, I have no doubt whatever—if we are to put our trust in macroscopical appearances and the attendant symptoms. Will some bacteriologist be good enough to explain these facts on the basis of the germ theory?

It is perhaps necessary to remind the younger generation, who may not have studied the question from the beginning, that the antiseptic system was founded on the hypothesis that germs floating in the atmosphere fell into wounds, there developed into their respective bacteria and

produced all the evil effects that sometimes followed surgical operations. I cannot but think that the address of the inventor of the system, delivered before the International Medical Congress at Berlin, has not been read so extensively as it deserved to be, and therefore it is that I feel obliged to direct your attention to it, at the same time commending it to you for perusal. Want of time forbids me to quote largely, as I could have wished, and I must be content with directing your attention to some only of the most salient points. He says : that "by means of the phagocyte theory of Metchnikoff"—which I have already shown you is now universally discredited—"we can account for what would otherwise have seemed to me incomprehensible—the use, without evil consequences, of silk ligatures, which have not been subjected to any antiseptic preparation. . . . Dr. Bantock, whose remarkable series of successful ovariectomies may seem to justify his practice, does not, I believe, prepare his ligatures antiseptically. The success achieved by Bantock and Tait, without, it is said, the use of antiseptic means, proves a stumblingblock to some minds." No doubt, so long as they hold to the germ theory. "I can see that while the measures" (comprehended under the term cleanliness) "to which I have referred are, so far as they go, highly valuable, it must be in itself a very desirable thing to avoid the direct application to the peritoneum of strong and irritating antiseptic solutions." This latter is in itself a strong justification of my abandonment of carbolic acid. He continues, "As regards the spray, I feel ashamed that I should have ever recommended it for the purpose of destroying the microbes in the air. If we watch the formation of the spray and observe how its narrow initial cone expands as it advances with fresh portions of air continually drawn into its vortex, we see that many of the microbes in it, having only just come under its influence, cannot possibly have been deprived of their vitality. Yet there was a time when I assumed that such was the case, and trusting the spray implicitly, as an atmosphere free from

living organisms, omitted various precautions which I had before supposed to be essential." He then describes how, in a case of operation for empyema, "the air passed freely in and out of the pleural cavity" in a cloud of spray, and he arrives at the conclusion that "it is physically impossible that the microbes in such air can have been, in any way whatever, affected by their momentary presence in the air." "If then," he continues, "no harm resulted from the admission day after day of abundant atmospheric organisms to mingle unaltered with the serum in the pleural cavity, it seems to follow logically that the floating particles of the air may be disregarded in our surgical work, and if so we may dispense with antiseptic washing and irrigation, provided always that we can trust ourselves and our assistants to avoid the introduction into the wound of *septic defilement from other than atmospheric sources*." What these sources are we learn from his address at Liverpool, on September 16, 1896, six years later, "Hence I was led to conclude that it was *the grosser forms of septic mischief*, rather than microbes in the attenuated condition in which they existed in the atmosphere, that we had to dread in surgical practice."

Here let me pause for a moment to give expression to my admiration of the character of the man who can confess his error with such candour and honesty, and exhibit such a state of open-mindedness, seeing that such a confession of error must detract from the credence we should otherwise give to his later views. Would that his disciples were like-minded! Nowhere do I find that Lister holds to the doctrine of Mr. Lockwood, which I have shown to be a refinement of absurdity.

To proceed: What, then, are the "grosser forms of septic mischief"? "If," in the words of the late Dr. Campbell Black, "they are what is vulgarly called 'dirt,' then we are all agreed that to remove dirt (not, however, by killing it), and to keep wounds clean is perfectly scientific and proper treatment." What is this but the doctrine of

"cleanliness" which I have advocated for so many years? Thus you will see that it only requires that Lord Lister should take one step more to fall into line with me. For while he has given up the theory of atmospheric germs, he admits that we may dispense with antiseptic washing and irrigation and has virtually come to accept the principle of cleanliness—one of the two principles in the enunciation of which I played no unimportant part and which are now generally accepted in the case of ovariectomy.

But, said Lister, in his Liverpool address: "The secretions of bacteria" possess "poisonous qualities of astonishing intensity." Where is the evidence of secretion? Do they possess a secreting organ? Is there an example in Nature of an organism, however low or high, living in not to say upon its own secretion?

Further, "Bacteriologists are now universally agreed that, although *various other conditions are necessary* to the production of an attack of cholera (and surely this does not apply to cholera only), besides the mere presence of a vibrio, yet it is the essential *materies morbi*." But if other conditions be necessary for an attack of cholera, what can the presence of a vibrio be but a coincidence or a consequence?

I claim, then, to have shown that the poisons of variola, vaccinia and syphilis *are not and cannot be* the product of a bacillus; that Loeffler's bacillus is not a constant, and therefore cannot be the essential element for the production of an attack of diphtheria; that the essential element in the case of gonorrhœa is not the *gonococcus*; that the essential element in the case of typhoid fever is not the *Bacillus typhosus*, that this bacillus cannot live but a few hours in ordinary sewage; that not a single specimen of this bacillus has ever been discovered in sewer air, and hence, that typhoid fever cannot be attributed to it because of its contained germs; that, in the cases of the epidemics at Maidstone and King's Lynn there exists no proof of the contamination of the water by typhoidal matter, as indicated

by the presence of the *bacillus typhosus*; that there is no evidence worthy of the name that tuberculosis is due to the ravages of the tubercle bacillus; that the comma bacillus cannot be regarded as the essential element in the production of an attack of cholera, and that the same can be said of the plague and its special bacillus; that the so-called pathogenic micro-organisms are constantly found under conditions consistent with perfect health, and that in more than one notable instance they not only appear to, but actually do exert a beneficent influence. To you, then, who hold by the germ theory, I would say, in the words of Oliver Cromwell, "I beseech you . . . think it possible you may be mistaken."

All these things, which are facts, not opinions, capable of demonstration and proof, go to show that the modern doctrine of bacteriology is a gigantic mistake; that we are already at the parting of the ways, and that it is safe to predict that, ere long, it will come to be recognised that these various bacilli play a beneficent rôle in the economy of nature.

I am very far from having exhausted my subject; for while I have only touched with a light hand upon some portions of it, I have omitted others altogether, such as cancer, rheumatic fever, varicella, measles, scarlatina, &c., from all of which facts can be obtained and arguments drawn to support me. But I fear I have already occupied too much of your time, and I must bring my discourse to a close. In doing so my thoughts revert to the time—twelve years ago—when it was my duty to deliver an inaugural address from the chair, which you, sir, now occupy, and, if the spirit of prophecy be upon me now, as it undoubtedly was then, I may fitly close by repeating the concluding paragraph of that address, of which the text was "Listerism, its past, its present, and its future." The necessary alterations will suggest themselves to your minds. Speaking, then, of its future, I used these words. Finally, gentlemen, what shall I say of its future? Shall

I play the rôle of prophet and attempt to forecast its future? The old adage forbids. Perhaps, ere many years have gone over our heads, Listerism will already have become a thing of the past and as a tale that is told; perhaps the men of even the next generation, in their study of this subject as matter of "ancient history," will be heard asking of one another the question, "What was it all about?" and, perhaps, it will be chronicled as one of the crazes to which, to our humiliation be it said, our profession was given up literally soul and body. And as we now smile at the doctrines of the Rationalists and the Empiricists, of the Dogmatists and the Methodici, as we are lost in wonder and amazement at the belief in Charms and Amulets, and in the efficacy of the Royal Touch, and as we ridicule the vagaries of the Alchemists and the Astrologers, and of the healers by faith and prayer, as well as the antics of the African Medicine Man, so will our sons, perhaps, smile at the credulity of their fathers and wonder at their unreasoning faith in the efficacy of a system which was founded upon a "hypothesis that was not proven" and certainly "was not true."

How truly prophetic this now appears to have been! How applicable also to the present phase of the modern doctrine of bacteriology, or the germ theory of disease!

The PRESIDENT said that no subject could be brought before any society more pregnant with interest or more important than that of the doctrine of bacteriology. It was important, not only to the gynæcologist, but to the whole science and art of modern medicine, and therefore, now that it was before them, he was glad that there was such a large audience present. It would take a whole session of their meetings to deal, even in outline, with the different points referred to in the paper, and therefore he would ask the speakers to confine their remarks to the bearings of the germ theory on gynæcology. There were two classes of observers present: first, expert bacteriologists who had spent their time on the study of the life-history and mor-

phology of micro-organisms in all their bearings, physiological and pathological ; second, those, more numerous, but whose evidence was not less important, who, in their practical work, had put the views of the experts to the test. So, in order to make this discussion of greater value, inasmuch as the reports of it would go out to the whole profession, their Fellows including gynæcologists of note in every civilised country, he would ask those present to address themselves to one of the two attitudes he had mentioned. He would first call on Dr. Allan Macfadyen, Director of the Jenner Institute of Preventive Medicine, to address the meeting.

Dr. MACFADYEN remarked that he had attended the meetings of many scientific and medical societies, but it was the first time that it had fallen to his lot to listen to such a paper as had just been read by Dr. Bantock before a society of repute. It was a unique experience that in the country which produced Lister such views should be held and put forth. He had come prepared to listen to, and take part in, a serious discussion. The experimental research of the last ten years did not appear to exist for Dr. Bantock, nor had he brought forward one word of proof for the statements he had made. It was difficult to appreciate or to deal with such a mental attitude of pure negation, and he therefore abandoned any hope of convincing Dr. Bantock, and felt it would be useless on his part to bring forward in connection with such a paper the remarks he had intended to make upon the bacteriological questions pertaining to asepsis and antiseptis. Dr. Bantock had asked, "Where did the germ theory of disease stand now?" He replied that it stood exactly where it did before Dr. Bantock commenced his attack. What they had listened to was simply a "confession of faith"—and nothing more. He would not indulge in any comments upon opinions brought forward without any basis of experimental proof or fact, but would leave it to the members of the Society, who were well acquainted with the elementary facts of

bacteriology, to make their own choice as to whom they would follow, Pasteur, Lister and Koch or Dr. Bantock. Dr. Macfadyen concluded that if he were a guest of the Society on some future occasion he would be pleased to discuss the questions raised in a more serious fashion than they had listened to that evening.

Dr. STOKER said he had listened to Dr. Bantock's interesting paper with great attention. Dr. Bantock had travelled over a very wide field, into many parts of which he (Dr. Stoker) was quite unable to follow him. He proposed to offer a few remarks in reference to his own work as to the effect of staphylococci in wounds, &c., treated by oxygen gas. He felt he was placed between two extremes, on the one hand it was stated that all micro-organisms in wounds were bad, and on the other that none were bad; he stood midway, and believed that some were harmful and some useful, and of the latter were the staphylococci. It was a perfectly reasonable belief that certain micro-organisms under healthy conditions were good and useful, and that these same bodies under unhealthy conditions were harmful, and that was his view about staphylococci. They were to be found all over the body, both on the surface and elsewhere; as long as the parts containing them were normal they carried out their functions, but if, for instance, the skin were cut or bruised then pus formed, because the conditions were altered, owing to the equilibrium established by nature having been upset by the accident. He had made hundreds of observations on over 250 cases, and in all, rapidity of healing was in proportion to the presence of staphylococci. He quoted cases of sterile wounds and ulcers that had stopped healing; when put into oxygen these wounds after thirty-six hours were found to be plentifully supplied with staphylococci, and healed rapidly. He also quoted two cases and showed photographs of a girl who had a burn on her hand and one on her thigh. The wound on the hand contained a plentiful growth of staphylococci and healed rapidly, the

wound on the leg which had no staphylococci did not heal. The micro-organisms were taken from the hand and placed in the leg wound which at once began to heal. These were facts, and not theory. His investigations were not carried out in any unworthy spirit of opposition to any theory or system that had been propounded. He was simply looking for the light, and to find the exact way in which oxygen produced its results.

Dr. R. T. HEWLETT remarked that any evidence given by Dr. Bantock in support of his views was entirely of a negative character, and negative evidence unless overwhelmingly supported was of little value. With regard to the Maidstone epidemic, Dr. Bantock was hardly fair; it was true that no typhoid bacilli had been isolated from the water, but Dr. Bantock omitted to mention that at least a month, and probably six weeks had elapsed between the date of infection and the commencement of the examination. In other epidemics, notably that of Worthing, the typhoid bacillus had been isolated from the water. With regard to diphtheria, the diphtheria bacillus could be detected in the vast majority of cases. In splenic fever of cattle, the whole cycle of which could be observed in a lower animal, he could not conceive that anyone who read the history of the investigations into that disease could come to a conclusion other than that the bacillus anthracis was the causative agent. Tuberculin had been attacked, but he considered there were still cases in which it might be useful, and, as regards risk, that was inseparable from all forms of drug treatment. Lastly, Dr. Bantock had stated that as good results were obtained in ovariectomy from the use of ordinary cleanliness as with the most elaborate precautions for asepsis, but he would remark that the peritoneum was exceptional and would suffer with impunity a treatment which would be tolerated by no other serous membrane. He believed that all attempts to open the knee joint without the strictest antiseptic and aseptic precautions would end in disaster.

Dr. INGLIS PARSONS felt sorry that so distinguished a surgeon should hold such erroneous views on pathology. The results obtained by Dr. Bantock in his operations were against his own views, and in favour of the germ theory of disease, because he took the most scrupulous care to ensure cleanliness in his nurses, instruments, and surroundings, and thus by aseptic measures prevented infection. When there were no germs, antiseptics were not required. The Samaritan Hospital was comparatively modern and the surroundings were good, but in some of the older hospitals, unless strict Listerism was carried out, the results were disastrous. He could instance the practice of two surgeons when he was a student. One of them, using strict Listerism, was able to perform excision of the knee, and put up compound fractures, and open the peritoneum with impunity, while the other, who decried Lister, was obliged to give up these operations on account of the frightful mortality that followed. Such instances could be multiplied indefinitely. With regard to epidemics of typhoid and other diseases Dr. Bantock had quoted one instance only where the bacillus could not be found, but he had omitted to mention hundreds of instances where it had been found and traced to a definite source of infection. He found it difficult to believe that Dr. Bantock seriously entertained these extraordinary views.

Mr. F. BOWREMAN JESSETT said he had had the privilege some years ago of witnessing Dr. Bantock do a number of abdominal sections. Dr. Bantock had most courteously also allowed him to see the patients with him when he dressed the wound. In several of them stitch abscesses had formed, and Dr. Bantock was in the habit of syringing these out with sulphurous acid. He would like to ask Dr. Bantock if he still continued this practice, and whether he did not look upon sulphurous acid as a powerful antiseptic agent? He would also like to ask Dr. Bantock what, in his opinion, caused these abscesses? Dr. Bantock originally used silk for suturing

the abdominal wound, but on account, as he (Mr. Jessett) understood it, of these abscesses, abandoned the silk for silkworm gut. He would further like to ask Dr. Bantock if he did not now boil all his silk before using? and pointed out that boiling or heat was admittedly the best disinfecting agent they had. Would Dr. Bantock explain why he boiled his silk? With respect to the typhoid bacillus Dr. Bantock had alluded to the Maidstone and King's Lynn epidemics. Did Dr. Bantock remember the Worthing and Caterham Valley epidemics? In the latter, two sides of a street were supplied by two different companies. On one side the inhabitants had typhoid, on the other they were free. On investigation it was discovered that the first case of typhoid occurred in a man who was working in a well which supplied the affected side, and he admitted that while working in the well, although then ill, he defæcated into it. Hence the epidemic. Could Dr. Bantock explain that?

Dr. GODSON thought it would be very disastrous if Dr. Bantock's paper had the effect of shaking the faith of midwifery practitioners in the employment of antiseptics. In an address which he had delivered to the Society when President, he had shown the marvellous change which had taken place in the death-rate of the City of London Lying-in Hospital since corrosive sublimate had been in use there. This was happily maintained, last year's annual report showing that only one death (from puerperal eclampsia) had occurred among the 565 women delivered in the hospital. There had not been a single case of septicæmia during the year. It would be indeed sad to revert to a mortality of 1 in 19, which existed when he first became attached to the hospital, and he had no doubt that the change was due to the thorough way in which antiseptics were now employed.

Dr. MACPHERSON LAWRIE declared himself an adherent of the germ theory of disease. Had Dr. Godson not referred to the subject, he had intended to recall to their recollec-

tion the remarkable paper delivered by that distinguished obstetrician before this Society. The facts brought forward by Dr. Godson furnished overwhelming evidence in favour of the antiseptic treatment of disease and he was somewhat surprised that none of the previous speakers had commented on those facts. He pointed out as a curious anomaly that while the extreme Listerites like Howard Kelly, and Lockwood, of London, emphasised the absolute necessity of adopting aseptic treatment in all its details, equally good results were apparently obtained by men like Dr. Bantock, who relied practically on soap and water. Such contradictions were very puzzling to the ordinary man who would be greatly helped if some definite rule of practice could be enunciated by such a Society as this, and he felt rather disappointed that some of the distinguished bacteriologists who were with them that night had not thrown more light on this part of the subject.

Dr. C. H. F. ROUTH remarked that the whole question was in a nutshell. Assume that the germ theory was nonsense ; then how could they explain the fact that certain fluids coming in contact with healthy persons produced disease ? How could they account for the phenomena of putrefaction ? Some time ago he read before the Royal Medical and Chirurgical Society a paper on Puerperal Fever in Vienna. It was shown that in the department of the maternity attended by midwives the deaths were few, whilst in that worked by students there were 600 deaths a year. Semmelweis showed that the difference was due to the fact that the students went direct from *post-mortem* examinations to the maternity cases. How could they account for this except on the germ theory ? Then they must remember that the causes of disease might be active at one time of the year, and not at another ; this was a fact which cut the ground from under Dr. Bantock's feet. The plague in India was another case in point. Dr. Bantock ridiculed those who used antiseptic precautions ; but he had not proved his thesis. Scrupulous cleanliness in one's

person and instruments could do a great deal, but not all. How was it that Dr. Bantock used sulphurous acid to some wounds? Was not this acid an antiseptic?

Dr. P. Z. HEBERT asked Dr. Bantock what was the exact relation which he considered existed between disease and micro-organisms? He told them that bacteria were the result, not the cause of disease. This was a rather obscure statement. Disease was a condition, not a material entity. Did Dr. Bantock contend that bacteria were produced *de novo* by disease, or, in other words, was this a case of creation of something out of nothing? Or were bacteria formed out of the diseased tissues? If not, where did they come from, since Dr. Bantock told them that bacteria were not to be found in the air. Would Dr. Bantock also give them his own definition of what a septic poison was?

Dr. A. W. ADDINSELL did not think that Dr. Bantock could congratulate himself on his powers of prophecy, because the doctrine of bacteriology held the field more triumphantly to-day than it did twelve years ago, when Dr. Bantock made his eloquent prophecy of its speedy downfall. There were many statements in the paper made without proof, *i.e.*, in a negative sense, and as far as he could see there was only one statement made in a positive sense, and that was the reference to staphylococci in wounds. Dr. Stoker, like Dr. Bantock, explained the healing of wounds as due to the presence of staphylococci. The non-healing aseptic wound was said to have been treated with mercury, the strength of which was not stated. Granting the facts, Dr. Addinsell contended that the correct explanation was that the mercury had killed not only the staphylococci but also the granulations on which the healing depended. The other ulcers healed because the oxygen favoured the granulations, and also diminished the virulence of the staphylococci. This view was proved by experiments in the laboratory at King's College where he had been working. It had been shown that though oxygen did not

prevent the growth of staphylococci it did diminish their virulence, the proof of which was that a much larger amount of a culture of staphylococci passed through oxygen was needed to produce ulcers in guinea-pigs than was required in the case of a culture not so treated. Dr. Bantock seemed also to stumble over the gonococcus. He had told them about a washed gonococcus which did no harm when placed in a healthy urethra ; but how could he prove that in the process of washing the gonococcus had not been killed ? Dr. Bantock disagreed with Dr. Newman in the latter's statement that the gonococcus caused pyosalpinx ; there was no real difficulty in accepting Dr. Newman's view. It had been proved again and again that in a pus tube that had been removed the pus might be sterile, whilst a cultivation taken from below the surface of the pyogenic membrane was not sterile ; thus affording scientific proof that under given conditions the gonococcus might lose its vitality.

Dr. HENRY JELLETT (Dublin) said that he had had the honour of discussing the question with the author about a year ago. He thought that Dr. Bantock neglected to pay sufficient attention to two very important points, when considering the question of the presence of bacteria in the human body without causing disease. The first of these was the difference in virulence of bacteria which were morphologically the same. He thought that accounted for the presence of streptococci in wounds and other places without giving rise to any symptoms of septic poisoning, although in other cases morphologically the same bacteria were undoubtedly the cause of grave infection. The second point was the immunity acquired by patients to the action of a particular form of bacteria as the result of the continued presence in the body of that bacterium. He thought this explained cases in which the diphtheria bacillus was found in the throats of patients some long time after they had recovered from the actual disease. Then Dr. Bantock had talked of the slight

degree of mischief brought about by the gonococcus as exemplified by the fact that it was met with in only one out of four cases of pyosalpinx. This was really a very high proportion, if one took into account the number of cases of sterile, of undoubtedly tuberculous, and of presumably septic, pus tubes. In conclusion, he would like to ask Dr. Bantock two questions. First, why did Dr. Bantock wash his hands, even to the slight extent that he did? Was it a species of "ritual?" Dr. Bantock said, "That it was in order to remove what Lord Lister called the grosser forms of septic mischief." Dr. Jellett thought that in this case Dr. Bantock must either perform the washing solely as a tribute to Lord Lister and because he directed it, or he (Dr. Bantock) must believe in the existence of these grosser forms. If Dr. Bantock believed in the grosser forms which could be removed by any slight washing, why should he not believe in forms which required a more scrupulous washing to remove? And if some people believed in a slight washing, and others in a careful washing, and others in an antiseptic washing, he thought there was only a difference in degree of the same idea between Dr. Bantock's washing and that of other people. The second question was, supposing Dr. Bantock operated on a really septic case, as shown by the occurrence of high temperature, rigors, rapid pulse, &c., and that his hands were bathed in pus, would he operate on a non-septic patient the next day, or would he wait? If Dr. Bantock constantly went straight from a septic case to a non-septic case without any evil consequences arising, there was undoubtedly some cause to consider that his reasoning was correct. If, on the other hand, he waited for four or five days before operating again, his hands would have had time to become sterile again, and there was not the same reason to be astonished at his results.

The PRESIDENT said he had been a strict adherent to the teachings of Lister from the days of the impermeable shellac with carbolic putty dressing to the present time,

instancing cases which would have been unquestionably amputated by the older surgeons, restored to usefulness even by these old Listerian methods. The paper of Dr. Bantock, he said, bristled with contentious matter, but he—the President—entirely disagreed with the deductions which the reader had drawn. With regard to some of the matters touched upon, his eleven years' experience of epidemics in a large fever hospital, and in a Government Poor-law appointment outside it, as well as in a maternity institution, confirmed his belief in the teachings of bacteriologists. He altogether denied that the inferences drawn from the cases referred to by Dr. Bantock as occurring in Dr. Stoker's practice with oxygen on ulcers in any way refuted the germ theory of disease. Dr. Bantock was in opposition to the views of all the most distinguished living gynaecologists on the subject of the gonococcus and its relations to pyosalpinx. His views on antisepsis were entirely opposed to the practice and the teachings of surgeons for the last twenty years. The President ridiculed the idea of drawing those distinctions, with regard to what Dr. Bantock called "cleanliness" in the practice of gynaecologists, between what he referred to as "the grosser forms of septic mischief" and the lesser. He was not quite correct in saying that micro-organisms had not been found specially associated with the pustulation of variola, and he overlooked the fact that those cases of scrotal surgery to which he had referred might possibly be accounted for by the conditions antagonistic to septic germs which were inherent in this part and in the testicular organs. Everything that Dr. Bantock had said with regard to the micro-organisms of the skin and their presence in wounds healing by the first intention was in accordance with widely known and acknowledged bacteriological facts. Given, however, sufficient aseptic preventive steps and resistant vitality on the part of the subject, and such micro-organisms were harmless. Such teachings as those enunciated in this paper set back the hands of the clock, so far as medicine was concerned, some five-and-twenty or thirty years, and were all

the more serious and dangerous because they emanated from one who was acknowledged to be a brilliant operating gynæcologist, and if endorsed by the *imprimatur* of that Society would go forth to the whole medical world, encouraging men who possibly had not his skill or favourable surroundings to pursue methods of operation which might prove most disastrous. In carefully listening to the paper, he could not help coming to the conclusion that Dr. Bantock had not made himself fully conversant with the researches of bacteriologists within recent years, or he would have been acquainted with the fact that the various questions which tended to make him sceptical, were by them fully and thoroughly discussed, such as that of the Klebs-Loeffler bacillus, in its relation to diphtheria, the presence or absence of the gonococcus, the differentiation of the bacillus typhosus, and, in fact, every question raised by him. The attitude of the British Gynæcological Society to these views should be such that its verdict would be unmistakable, and that it could in no way be involved by them.

Dr. BANTOCK, in reply, said he was very much disappointed at the course the discussion had taken, for although two experts in bacteriology had taken part in it, no attempt had been made to refute a single point in his paper. They had not even referred to the oxygen treatment and its bacteriological results, which they evidently regarded as being unworthy of their notice. All the speakers avoided the points in the paper, and, while professing themselves followers of Lister, showed that they had taken no notice of his latest teaching, but adhered to that of twenty years ago. One of the bacteriologists accused him of disparaging Lord Lister, but the contrary was the fact, for he had gone out of his way to compliment him, and he was forcibly reminded of the legal advice "No case, abuse the plaintiff's attorney." He was twitted with having studiously avoided the typhoid epidemic at Worthing. He could retort that his critic had equally avoided the Maidstone epidemic, as to which Dr. Poore substantially agreed with him in his Milroy lecture.

THE BRITISH GYNÆCOLOGICAL SOCIETY.

SPECIAL MEETING, MARCH 23, 1899.

H. MACNAUGHTON-JONES, M.D., PRESIDENT, IN THE CHAIR.

PRESENT : 35 Fellows and Visitors.

The following gentlemen were elected Fellows of the Society :—Edward Desmond Fitzgerald, M.R.C.S., Folkestone ; Richard Jocelyn Swan, M.R.C.S., London.

Prof. Wm. Japp Sinclair, M.D., M.R.C.P., Manchester, was proposed for election as a Fellow of the Society.

SPECIMENS.

CASES OF ABDOMINAL HYSTERECTOMY FOR FIBRO-MYOMA UTERI.

By CHARLES RYALL, F.R.C.S., Surgeon to the Cancer Hospital, Brompton ; Surgeon to Out-Patients, London Lock Hospital.

Case I.—M.R., aged 54, consulted me on September 27, 1898, and gave the following history :—

For thirteen years she has noticed a tumour in the abdomen, but it has only troubled her during the past two years, during which time it has been gradually enlarging, but more rapidly so during the last few months. There has been much pain in the abdomen and lumbar and sacral regions, which is aggravated by walking too much, so that the patient is unable to get about and attend to her household duties. There has been a great loss of flesh. The bowels are constantly constipated, and micturition is both frequent and painful. Catamenia began at age of 13. Regular, no excessive loss. Always severe dysmenorrhœa.

Menopause at age of 45. Children two ; youngest 32 years old. No miscarriages.

On examination a hard nodular and irregular mass about the size of a cocoa-nut can be felt in the hypogastrium. It is dull on percussion and extremely mobile.

Per Vaginem.—The cervix is pushed over to the right side, and a freely movable nodular mass can be felt in the left and posterior fornices, and is found to be part of the abdominal tumour, and to be incorporated with the uterus.

Operation, October 5, 1898.—Abdominal hysterectomy by the sub-peritoneal method was performed, which also included removal of the left ovary, and the abdominal wound was sutured in three layers. The patient went on very well on the first and second day following operation, and fæces and flatus were passed after administering three grains of calomel and an enema. A little flatus was also passed on the morning of the third day, but about noon on the same day the patient was seized with sudden acute pain in the left iliac fossa, followed by a little sickness. On examination there was a great deal of tenderness limited to the left iliac fossa, and the colon was greatly distended, and in a few hours the distension spread to the small intestines. Repeated 5 grain doses of calomel were given, and every attempt was made to open the bowels by enemata and the long rectal tube, but neither fæces nor flatus was passed. The abdomen was re-opened six hours after the onset of the symptoms, and it was then found that the sigmoid loop was kinked and bound by recent adhesions to the remains of the left broad ligament. The bowel was easily freed, but on pulling it up it was noticed that there was a good deal of tension on the ligature embracing the upper part of the left broad ligament, and owing to the proximity of this ligature to the meso-sigmoid, it was thought that it might possibly cause a continuance of the symptoms. As the patient was in a very feeble condition, and as there was a great deal of liquid fæces in the colon, the sigmoid was sutured to the abdominal wound and drained by means of a

Paul's tube. The tube was removed on the fifth day, after which the bowels acted naturally, and the fistula gradually contracted and eventually closed in a month's time.

There is no doubt that the kinking and adhesion caused the obstruction, but a ligature close to the meso-sigmoid, interfering with the blood supply or innervation of the part, may cause similar symptoms.

Case II.—Abdominal Hysterectomy for Fibro-Myoma Uteri, followed by Rupture of the Abdominal Wound.—F. H., aged 32, unmarried, consulted me on November 28, 1898. Menstruation began at the age of 13, and ever since then she has suffered great pain at the periods. The pain now commences after the first day of the flow, and is usually at its worst on the third and fourth day, and is so severe in character that it frequently makes her cry out. Moreover, she is quite incapacitated from work at the time. The duration of the period is five to six days, during which there is a great loss, with occasional passing of clots. For the last six months the symptoms have become worse, and she has also suffered from severe sacral pain in the intermenstrual period. Medicinal treatment and rest have given her very little relief.

Family History.—Her sister has also consulted me, and is suffering from fibro-myomata uteri, causing similar symptoms.

On examination, a hard, smooth, solid tumour can be felt in the abdomen, rising about two inches above the pubes. Per vaginam, this tumour was found to completely fill the pelvis, where it was fixed, and was bulging down the vaginal fornices.

Operation, December 9, 1898.—Abdominal hysterectomy by the sub-peritoneal method was performed, both ovaries being left behind. The operation was both difficult and tedious, owing to being unable to lift the tumour out of the pelvis or to get the hand below the tumour so as to reach the cervix and secure the uterine vessels. After securing the upper part of the broad ligament on each side, the

peritoneum was incised over the tumour and peeled off, and then enucleation of the tumour was performed, after which it was lifted out of the pelvis, the uterine vessels secured, and the mass severed. The peritoneum was sewn over the stump with catgut. The parietal peritoneum was closed with a continuous catgut suture, the musculo-aponeurotic layer with interrupted silk sutures, every care being taken to bring the fascia into careful apposition, and finally the skin was brought together with a continuous silk suture.

The patient bore the operation well and made good progress after operation until the fifth day. The bowels had acted several times, but there was occasional retching.

On the afternoon of the fifth day I was called suddenly to see the patient, and found her practically moribund. She was unconscious, the face was a dusky grey colour, the breathing was rapid and shallow, and the pulse 137 and almost imperceptible. The onset of these symptoms was sudden, but I was at a loss to understand the cause of this collapse. Hypodermic injections of ether and strychnia were given, immediately followed by intravenous injection of five pints of normal saline solution. The effect was immediate and most satisfactory, for the patient suddenly woke to consciousness, and the pulse and respirations improved. She then told me that she had some retching, when she was seized with pain in the epigastrium, after which she could remember no more. This made me think that possibly there might have been some intra-peritoneal extravasation, and that the shock caused the sudden collapse, but on examining the abdomen the edges of the wound seemed in apposition, there was slight tenderness, but I could find no reason to re-open the abdomen. Three hours after this she collapsed again, and intravenous injection of saline fluid had only a very temporary effect. The abdomen was again examined, and it was then found that the edges of the skin in one portion of the wound were gaping, and a quantity of serous fluid exuded on pressing the abdomen. I, therefore, removed the cutaneous suture and found that

the two deeper layers of sutures had completely given way, the sutures having torn through the tissues. The wound was now reclosed with sutures, including the whole thickness of the abdominal wound, but the patient gradually sank and died in a few hours. The necropsy revealed nothing of note, except that there appeared to have been no attempt at union in the abdominal wound.

The case is of interest showing as it does that, even after taking every precaution, accidents may happen. The cause of the sudden collapse was at first a mystery to me, but now one knows that it was due to the shock of the rupture of the deeper layers of the wound, and thus simulated the perforation of a gastric ulcer. The superficial suture for a time kept the skin in apposition, and thus prevented me from immediately detecting the nature of the accident.

Case III.—Case of Abdominal Hysterectomy for Myoma Uteri causing severe Hæmorrhage.— M. S., aged 35, married, no children, has suffered from menorrhagia during the last four years, and the loss is so severe that the patient has become almost completely blanched, and frequently faints. There is also a slight irregular loss between the periods; slight dysmenorrhœa. The catamenia began at the age of 13, and were regular up to four years ago.

On admission the patient was thin and feeble, and suffering from severe anæmia.

On examination a soft smooth swelling could be felt in the hypogastrium, and reaching to within two inches of the umbilicus. *Per vaginam* the os was patulous, and a soft round swelling could be felt within, and implicating the right side of the uterus could be felt a tumour which was continuous with that felt in the abdomen. The whole mass was quite movable.

Operation in the Cancer Hospital, January 25th, 1899.— The uterus was first explored *per vaginam*, and a myoma about the size of a cocoa-nut could be found bulging into the uterine cavity, and standing out prominently on the peritoneal surface of the uterus.

Abdominal hysterectomy by the intra-peritoneal method was then performed, and it presented no difficulties. The patient bore the operation well, and made a rapid recovery.

Dr. F. A. PURCELL commented on the accident in Mr. Ryall's first case : intestinal obstruction might occur from traction on the mesosigmoid when there was any difficulty in securing the uterine artery, leading to kinking of the bowel. The same complication might occur from intestinal adhesions. The second case showed the value of transfusion ; until lately this measure was not resorted to as often as it deserved ; it gave very good results. Rupture of the abdominal wound was a rare occurrence ; the triple method of suturing the abdominal wound was usually a safeguard. In Mr. Ryall's case the accident was probably due to the vomiting from which the patient had suffered.

Dr. HEYWOOD SMITH thought Mr. Ryall had set an example worthy of being followed in bringing forward accidents that had occurred in his cases. He asked Mr. Ryall whether in the first case the gut might have been separated from the stump, and thus the possibility of a faecal fistula avoided. Referring to the second case, he remarked that catgut was not a good material for suturing the peritoneum, as it was apt to become absorbed too soon. For the other layers the material of the suture was of less importance.

Dr. HERBERT SNOW considered that the plan of giving an aperient by the mouth on the second day was dangerous, as tending to set up vomiting, which might be difficult to control, and should be feared almost as much as hæmorrhage. He preferred enemata of glycerine and peppermint water.

Dr. HODGSON asked whether the condition of the kidneys had been ascertained in the second case ; the symptoms appeared to him to be more than were accounted for by the vomiting, and the accident to the abdominal wall.

Dr. WINSON RAMSAY (Bournemouth) said he was very interested in the second case. He held the view that the

middle line was the only place in which an abdominal wound should *not* be opened. He always used an incision through the rectus muscle, and in about 200 cases of abdominal section he had never had any bad results. He had had only one opportunity of re-opening a wound, and he then found that the three layers were well united. The only objection that was made to the lateral incision was that some of the parts of the pelvis could not be got at so easily ; but it was merely a theoretical objection, and in practice no difficulty was found. He believed that in many cases hernia of the wound occurred, of which the operator heard nothing.

The PRESIDENT observed that there were several points of importance in Mr. Ryall's specimens. The first was the diagnosis between intestinal obstruction and obstructive peritonitis, and this was often a very anxious matter. They had to rely on the countenance of the patient, the position of the pain, the character of the vomiting, and the difference in the temperature ; the latter was high in peritonitis ; in intestinal obstruction it was generally not so, as in Mr. Ryall's case. The second point was the importance of transfusion. It should be resorted to not only after, but if necessary during an operation ; and the apparatus with the saline solution should be in every operating theatre. For the suture of the wound, he always used fine silk for the peritoneum, silk or silkworm gut for the fascia, and silkworm gut for the skin.

Mr. RYALL, in reply, said that he found in the second case that the peritoneum had torn, and the fascia sutures had torn through. As to the temperature, as a means of diagnosis of intestinal obstruction, he did not regard it as reliable. In reply to Dr. Heywood Smith's question, he would remark that a fæcal fistula in the sigmoid, or indeed in any part of the large intestine, healed readily, differing markedly from one in the small intestine where the coats were much thinner. For suturing the peritoneum he did not think that silk was necessary because here union took

place within a few hours ; and Mr. Greig Smith in many cases did not suture the peritoneum at all. The patient had had an aperient—viz., 5 grs. of calomel ; but there was no true vomiting, only a constant retching. In reply to Dr. Hodgson, he could not say whether the kidneys were examined at the *post-mortem*. There was one objection to opening the abdomen through the rectus—viz., the cutting off of the nerve-supply of the part internal to the incision. Replying to the President, he operated by the vagina in the third case, thinking it might be a polypus.

Dr. WINSON RAMSAY showed the following specimens :—
(1) Two Uteri removed through the Vagina. (2) A Myoma (? sarcoma) removed by Abdominal Hysterectomy. (3) A Specimen of Tubal Abortion. (4) A Modified Broad Ligament Needle.

Dr. PURCELL referred to a case of ectopic gestation occurring twice in the same patient, the details of which he had already narrated before the Society.

Dr. HEYWOOD SMITH asked whether the larger myomatous tumour had been examined microscopically to determine whether it was really sarcomatous. With regard to the tubal abortion, the mole, having remained in the tube, seemed too small to cause so much hæmorrhage. He noticed that in the specimen the fimbriæ were much thickened, and suggested whether this might not have been the source of the hæmorrhage.

Dr. ARTHUR GILES complimented Dr. Ramsay on the care he had shown in dealing with a difficult complication—viz., the proximity of the ureter to the myoma in his abdominal hysterectomy case. Unless great vigilance were exercised, the ureter was easily wounded in this position. With regard to the case of tubal abortion, he would remark that it was strictly an instance of missed tubal abortion ; and the presence of the mole in the tube was sufficient to account for the continuance of the hæmorrhage by keeping the tube distended. A parallel was to be found in incomplete uterine abortion, where a portion of

the ovum retained in the uterus was sufficient to keep up hæmorrhage by preventing uterine contraction. The first two specimens shown were excellent examples of the kind of uterus that was best removed through the vagina; he thought that the practice of removing very large tumours by this route was likely to hinder the wide adoption of vaginal cœliotomy.

The PRESIDENT asked Dr. Ramsay whether he had used Deschamp's needles; none other were needed. They were made also double-curved on the straight. With strong curved needles of various sizes in holders like Schauta's and Olshausen's, anything could be done that was required in vaginal hysterectomy.

Dr. RAMSAY, in reply, first reverted to a question previously raised, viz., the paralysis of the rectus muscle after lateral incisions, and said that paralysis did not occur unless one of the tendinous intersections of the muscle were cut through; and when it did occur it was of no importance, and got quite well again in course of time. With regard to the large myoma, a part of it was found at the operation to be cystic, and contained blood; he did not think at the time that it was malignant; it was only the subsequent history that had suggested this view. In the case of tubal abortion, he thought that the blood came from the mole itself.

Dr. JAMES OLIVER showed a photo of a fibroid of the ovary with extensive localised extravasation of blood under the capsule of the tumour.

ADENOMA UNIVERSALE OF THE ENDOMETRIUM (INFILTRATING THE MYOMETRIUM) IN A VIRGIN, FORMING AN ABDOMINAL TUMOUR—PAN-HYSTERECTOMY—RECOVERY. By JAMES OLIVER, M.D., F.R.S.Ed., F.L.S., M.R.C.P.Lond. Physician to the Soho Hospital for Women, London.

The patient who is the subject of this annotation is a virgin. She came under my care in the first instance in November, 1895, and was then only 34 years of age. Men-

struation was not established until she was 18, and during the four succeeding years, *i.e.*, until the patient was 22, the menstrual discharge appears to have been moderate in amount. It thereafter became more profuse, and during the last ten years it has on several occasions (about twelve in all) been very excessive. The menstrual period preceding her visit to me had been a profuse one and had lasted six weeks and she was very anæmic in consequence. She had never experienced pain in association with menstruation. The following are the physical signs which were noted in November, 1895. The hypogastrium is occupied by a small globular and regular swelling which arises from the pelvis and extends to two and a half inches above the pubes. It is uniformly firm in consistence. The hymen is intact. Hanging from the cervix uteri are two mucous polypi of about the size of small hazel nuts. The hypogastric tumour is the uterus enlarged. On this occasion I merely removed the polypi. The patient thereafter enjoyed fairly good health, losing occasionally rather freely until October 1897, when she consulted me because she had been losing continuously for eight weeks. The physical signs then noted were the following. The hypogastric tumour is slightly larger than it was in November, 1895, and its consistence is hard. Hanging from the cervix uteri is a mucous polypus of about the size of a large hazel-nut. I now advised not only that the polypus should be removed, but that the uterus should be dilated and explored. By means of a somewhat sharp spoon I removed on this occasion from the cavity of the uterus nearly a teacupful of material which when examined under the microscope presented the appearance of a simple adenoma. The size of the uterus was thus so greatly reduced that it could not be detected abdominally. About two months after this operation patient began to complain of a watery discharge from the vagina, and in consequence of this troublesome symptom which necessitated in May, 1898, the use of three and four diapers a day, she again came under my care. I

Anterior segment
of uterus reflected
upwards.

Posterior
segment of
uterus.

Os uteri.

then found that the hypogastric tumour had reappeared, and that the uterus was of about the same size as it was prior to the last operation. Before submitting the patient to hysterectomy I decided to curette freely the endometrium once more, and this I did, removing again about a teacupful of adenoid material. The watery discharge re-appeared soon after this operation, and as it became more and more distressing the patient sought my advice again in October after an interval of only five months. The hypogastric tumour had now re-appeared, and was as big as it had ever been. I therefore advised, and performed, the operation of pan-hysterectomy, removing the whole uterus by the abdominal way. The broad ligament on each side was secured by three ligatures of silk. The lower ligature only on each side, namely that including the uterine artery, was pulled down into the vaginal canal and was left long; the other ligatures were cut short. With fine silk the peritoneum at the top of the bladder was stitched to the peritoneum which had entered into the formation of Douglas's pouch, and thus the peritoneal cavity was shut off from the vaginal canal. The patient made an excellent recovery, and was able to go to the seaside after the operation.

The uterus weighed twenty-eight ounces, and was equal in size to that containing a three months' foetus. On opening the organ anteriorly by a triangular flap, reflected from the cervix towards the fundus, the endometrium (corporeal and cervical) showed myriads of smooth prominences varying in size from that of a split pea to a walnut (see illustration taken from a photograph). Most of these new growths were practically sessile, but a few were polypoid. The muscular tissue of the organ generally was much thickened, and even to the naked eye it was apparent that the new growth had extensively infiltrated this structure. Sections of the smooth prominences and of the underlying muscular tissue display under the microscope the appearances characteristic of adenomata, namely, tubes lined with cylindrical epithelium.

On account of the manner in which the neoplasm invades the muscular tissue of the organ, pathologists will affirm that the disease is malignant. In attempting, however, to settle this important question, we cannot accept the tenets of the pathologist alone and discard altogether the clinical facts. In November, 1895, when the patient in the first instance came under my care, the enlarged uterus formed a hypogastric tumour which was then almost, if not quite as large as it ever was on any subsequent occasion. At this period the muscular tissue was already extensively infiltrated by the new growth, as the consistence of the uterine tumour was on this occasion as firm as it was at the time the operation of pan-hysterectomy was performed. It is impossible for us to surmise how long the hypogastric tumour may have existed before the patient came under my care ; as, however, it increased but little in size between November, 1895, and October, 1897—a period of nearly two years—it is more than probable that it had been in existence, and had maintained a more or less stationary condition, for several years. It is quite evident that the disease must have progressed slowly, as the prolonged and excessive hæmorrhage, which occurred when the patient was as yet only 24 years of age, was undoubtedly due to the neoplasm having already attacked the endometrium. With a clinical history, such as we have here presented, one would hesitate to characterise the disease as malignant. In the case which I have just recorded the specimen is an unique one, and the patient is probably the youngest that has ever been reported with adenomatous disease of the endometrium of so extensive a character.

It is an interesting fact that the lining of the cornua uteri in horned ruminants shows smooth prominences devoid, however, of utricular pores. They are called “caruncles” or “cotyledonal processes,” and they increase in number with the size of the species. In the giraffe as many as eighty of these processes may be detected. In the bison they are softer, thicker, and more obtuse than in the

giraffe, and they are less regularly disposed than in the latter animal. They are also very pronounced in the uterine cornua of the goat and sheep. When gestation occurs in animals possessing these cotyledonal processes, their surfaces, which previously were smooth, become somewhat papillose, and into the depressions thus formed the chorionic villi are thrust, and are there retained until parturition takes place. At birth the foetal villi are withdrawn from the maternal processes, and soon afterwards the surfaces of the latter become again smooth. Occasionally the entire caruncle is shed after parturition, and when this happens it is never reproduced.

Prof. Mettam, of the Royal Veterinary College, Edinburgh, informs me that the cotyledons in horned ruminants are upheavals of the mucous membrane, contain a good deal of corium, and are very vascular. They are covered by the ordinary epithelium.

Now, the disease which I have just described as occurring in the human female is an overgrowth of the lining membrane of the uterus, and we may perhaps be justified in believing that it is the revelation of a reversion of type tendency.

The PRESIDENT observed that they had listened to a philosophical paper, whose references to comparative anatomy added to both its value and its interest. He gathered that Dr. Oliver did not consider it to be a case of malignant adenoma; and that he thought that the first interference had made the case worse. If this were so, it would be an argument in favour of early hysterectomy rather than of repeated curetting. He had himself had a case of adenoma which he curetted; this was followed by a malignant condition of the uterus, which in the end killed the patient. Yet he thought that most men in dealing with such a case would proceed to curette the uterus, rather than at once perform hysterectomy.

Dr. HERBERT SNOW wished to protest against the use of the word adenoma, which was used in many senses, and

consequently led to confusion. In the photo, the growth certainly looked malignant, though in that case one would not expect it to go on for ten years. His view of the case would be that the patient had an endometritis which, on curetting, became truly cancerous. He would like to ask whether the later stages were accompanied by any of the symptoms of malignant disease.

Dr. P. Z. HEBERT took exception to the suggestion of reversion in this case. In order to show any probability that such a condition was a reversion to type, it would be necessary to show, not only that horned ruminants present such characteristics, but also that the ancestors common to both man and the horned ruminants presented the same characteristics before the divergence of the common stock into two distinct species took place; and this would be a rather difficult task, considering the remoteness of the period. Characters which might have developed after that period in one or other of these species could not be reverted to by the other. In other words, man could only revert to characters that had been evolved in the direct line of his descent. The comparison was also imperfect inasmuch as they had, in one case, a pathological and, in the other, a physiological condition.

Dr. OLIVER, in reply, said that when he first saw the patient, the size of the tumour was about the same as when he did the hysterectomy; but at the outset he did not attempt more than the removal of the polypi. These were found on examination to be adenomatous, but the patient continued quite well then for two years. She had no pain at any time; nor had she a watery discharge until after the curetting, which removed the surface of the glandular tissue. He did not regard the presence of such a discharge as any indication, by itself, of the existence of malignant disease.

THE BRITISH GYNÆCOLOGICAL SOCIETY.

THURSDAY, APRIL 13, 1899.

H. MACNAUGHTON-JONES, M.D., PRESIDENT, IN THE CHAIR.

PRESENT : 35 Fellows and Visitors.

The following gentlemen were proposed for election :—
W. Blair, M.D., Wigan ; Thomas Wilson Jenkins, M.D.,
M.A., Glasgow.

Professor William Japp Sinclair, Manchester, was elected
a Fellow of the Society.

DEATHS AFTER ABDOMINAL CÆLIOTOMY. By W. J.
SMYLY, M.D., Gynæcologist to the Adelaide Hospital,
Dublin.

Though the views I hold are shared by the majority
of operators at the present time, and may, therefore, seem
trite and lacking in originality, yet so rapid have been the
advances in abdominal surgery in recent years that I think
the Council of the British Gynæcological Society have
acted wisely on this occasion in calling a halt in order that
we may see how far it is possible to fall into line, and
that we may count the cost of our operative procedures.
And as regards the causes of death after abdominal opera-
tions, I know that there is among the Fellows of this
Society a sufficient divergency of views to render the
discussion of the subject both interesting and instructive.
By some, fatalities after cœliotomy are attributed almost
exclusively to the invasion of the peritoneum by micro-
organisms; whilst to others this is of secondary impor-
tance, and to others again of no importance at all; so
that the subject cannot be regarded as closed to dis-

cussion, and, remembering that a majority, however great, is not necessarily in the right, we should put aside partisan feeling, and approach the discussion with a simple desire to know the truth.

Among the causes of death after cœliotomy more or less due to abdominal conditions are : (1) shock ; (2) hæmorrhage ; (3) ileus ; (4) uræmia ; (5) inanition ; (6) tetanus ; (7) embolism ; (8) sepsis.

Shock.—Though we are familiar with the symptoms it is difficult to define the nature of this condition ; to say that it is “a profound impression made on the nerve centres and indicating extreme depression of the patient’s vital forces” is rather vague, whilst the statement that “it is due to exhaustion of the medulla oblongata and spinal cord leading to a great reduction in the vital activity generally, and resulting from severe irritation of the peripheral ends of the sensory and sympathetic nerves,” is in the present state of our knowledge too precise, nor does it include all the cases which present a common group of symptoms, but in some of which there has been no marked or prolonged nerve irritation, as, for example, those resulting from anæsthesia, hæmorrhage ; or one recorded by Fritsch, where an ovary was removed in five minutes, and yet for hours afterwards the patient remained in an alarming condition of the profoundest shock. It appears then that the term shock applies to a group of symptoms which may be due to a variety of causes, but is generally in direct proportion to the magnitude and duration of the operation, especially when associated with long exposure and manipulation of the intestines, to the amount of blood lost, and the cooling of the body generally. Patients already debilitated by disease such as cancer, bleeding myomata, and granular kidneys, bear operations badly, as do also those with “weak hearts”—not so much valvular disease as what is commonly understood by this term, namely hearts with rapid and weak action, whether this be due to imperfect development, degeneration of tissue,

previous illness, or nervous excitement. Failure of the heart is one of the most prominent features in shock, and it is a matter of common experience that women who accept their position with quiet resignation are less affected by it than those of a nervous temperament, and that where anxious days and sleepless nights have preceded an operation, the heart, worn out by nervous palpitation, fails to meet the extra demand which may be made upon it. Not only may this cardiac insufficiency prove directly fatal, but it may, as pointed out by Fritsch, do so indirectly; for not the circulation of the blood only, but also the movement of all the fluids in the body, depends upon the heart's action. If the heart be strong, or if it soon recovers after operation, the circulation of the blood and the flow of lymph continue normal; as do also the currents in the peritoneal cavity, where absorption takes place with extraordinary rapidity; lymph, blood, and micro-organisms are carried away through the lymphatics into the circulation, where the latter are rapidly destroyed or rendered harmless by the blood, Nature's great antiseptic. But for this to occur three things are necessary: first there must not be too many cocci; secondly, there must be a sound heart, and an undisturbed circulation; and, thirdly, the functions of the peritoneum must be normal. Where the heart is weak, and continues so, the flow of lymph is impeded, peritoneal absorption is diminished or ceases altogether, and a fluid collects in its cavity forming a stagnant culture medium eminently suitable for the development of germs, which are seldom altogether absent even after the most aseptically conducted operation. There exist, then, a number of peripheral dangers which a strong heart could overcome, but which with a weak heart may prove fatal. Not only do the causes already mentioned cause depression of the heart's action, sluggish circulation, diminished absorption, and suppression of urine, but exposure and manipulation of the intestines is followed by derangement of the physiological functions of the peritoneum. These injurious

effects are observable in the congested and disordered circulation, the dilated blood vessels and the reddened and lustreless peritoneum. The muscular and mucous coats participating, peristalsis becomes weak, or ceases altogether ; the mucous membrane swells, and ceases to absorb ; much flatus forms and is not expelled ; there is excessive tension in the intestines, and under such circumstances a passage of their contents into the peritoneal cavity is possible. We know that white blood cells can escape, and in them, with them, and apart from them, doubtless intestinal bacteria also.

Fritsch, who has drawn especial attention to this subject, attributes these changes to air contact and pressure changes, rather than to cooling and mechanical injury, though he says they are doubtless aggravated by rough treatment of the peritoneum with unsuitable materials when the intestines are rubbed and dragged about in performing the peritoneal toilette, or where chemicals are introduced into the peritoneal cavity.

Walthard (Bern), however, from a series of experiments on animals, came to the conclusion that the injury was due to the drying qualities of the atmosphere ; though he did not deny that it might in some measure be due to its coldness causing contraction of the blood-vessels and imperfect nourishment of the serosa. He therefore warned operators against drying the peritoneum, and recommended the use of moist compresses wrung out of sterilised salt solution. Sanger (Leipsic) adopted these views, and Schiffer, his assistant, reported much better results, especially the earlier return of peristaltic action and expulsion of flatus, since the introduction of moist asepsis. Uhlmann, however (assistant to Professor Zweifel in the same city), states in a recent publication that no apparent benefit has resulted from moist asepsis, which is inferior to the dry in other matters, especially as a haemostatic. With these latter views I am inclined to agree, and prefer the dry compresses taken directly from the can in which they have been sterilised,

excepting only those which directly cover the intestines, since the latter are liable to adhere to the dry cloths.

These cases present, according to Fritsch, peculiar clinical and *post-mortem* appearances. The patient awakes from the anæsthetic with a peculiar anxious feeling, embarrassed respiration, and a feeble heart. She complains that the binder is too tight. The intestine is paralysed, tympanites occurs without fever, the tongue is dry, and the pulse is fast, and grows faster and faster. The sensorium remains clear, but the weakness and anxiety increase. On the evening of the second day, or later, fever sets in, the tympany increases, the pulse grows thready, and the patient dies.

This, he contends, differs from sepsis, because an acute septic condition could not develop within an hour of the operation. Fever sets in early in sepsis, late in these cases, and the fact that one patient may die in this way, whilst others operated upon the same day make good recoveries, proves that no serious error in asepsis has been made. There are peritoneal symptoms, no doubt, but not peritonitis, since there is neither fever nor tenderness, and these cases often recover, whereas the acutely septic invariably die. Such patients become septic towards the end, but cardiac weakness is the prominent symptom throughout, and they die, not because they are septic, but they become septic because they are dying.

The better results obtained by vaginal methods he believes to be due to the peritoneum retaining its physiological functions which are not altered by contact with the air, cooling, or pressure changes; and he holds that the excellent results obtained by Lawson Tait, Bantock, Koeberle, and others are due to rapid and careful operating, whereby central and peripheral injuries are so slight that the functions of the heart and peritoneum are little interfered with.

It may, perhaps, be wrong to consider hæmorrhage in connection with shock, but there can be no doubt that a large number, if not the larger number, of cases reported

as deaths from shock have been due to loss of blood during or subsequent to operation. Hæmorrhage after operation may be due to the slipping of a ligature which has been improperly applied ; or it may come from denuded surfaces, torn adhesions, omental vessels, or from puncture of an epigastric artery when inserting the abdominal sutures. The spouting of a large vessel soon gives rise to symptoms easily recognised, but a small oozing is more easily overlooked. It occasionally happens that owing to heart failure the bleeding ceases altogether, or appears so insignificant that the abdomen is closed ; but after the patient has been put to bed and warmth and stimulants employed, with the recovery of the circulation the hæmorrhage returns, and its symptoms may be confounded with those of shock.

Zweifel has laid particular emphasis upon the importance of absolutely checking all oozing before closing the abdomen, especially where much loss has occurred during an operation. After severe hæmorrhage, he says, the heart works with half-filled vessels, the demands upon it are increased, and it works with great rapidity. If the bleeding point has been secured and the circulation inclosed within itself it gradually refills, all the organs and tissues pouring serum into it. The functions are gradually restored, the patient comes round by degrees and climbs step by step back to life.

But if, on the other hand, even a small hæmorrhage goes on it works against the heart's action both dynamically and reflexly. When the latter improves, the hæmorrhage increases ; as more serum flows into the circulation the blood becomes more watery, less coagulable, and thus less adapted to the spontaneous closure of the bleeding vessels. The heart working with a half-filled circulation aggravated by even a small continued loss he likens to a steam engine working a ship's propeller which lifts out of the water, or a locomotive when the wheels slip upon the rails. The mechanism is imperfect ; having lost its accustomed grip it resembles a pump insufficiently supplied with water. It

is, in fact, an empty pumping heart which authors term shock.

Late or secondary shock has been described, but I have never met with an example, and am inclined to attribute the fatal issue, in cases that I have seen recorded, to secondary hæmorrhage, sepsis, or the giving way of sutured viscera, especially intestine.

Preventive Treatment of Shock.—In weak and debilitated patients with a weak heart and rapid pulse operation should be, if possible, postponed or abandoned. The operation room should be heated to 75° or 80° F., prolonged exposure of the surface of the body, but especially of the intestines, should be carefully guarded against. The loss of blood should be reduced to a minimum, and the first symptoms of depression carefully watched for and actively treated.

Treatment of Shock.—I think we are pretty well agreed as to the main lines of treatment in these cases. Hæmorrhage should at once be controlled, and where the loss has been considerable, sterilised salt solution infused either into the subcutaneous connective tissue or directly into a vein. In my practice in the Rotunda Hospital I formed an unfavourable opinion of the former, and abandoned it in favour of intravenous infusion, but the apparatus of Munchmeyer which I employed was imperfect compared with that used by Dr. Howard Kelly in the John Hopkins Hospital, by which a large quantity of solution can be more rapidly infused with a fall of six feet, and it is so strongly recommended by him that I am inclined to have recourse to it should the occasion occur. In all cases of shock, whether due to loss of blood or other causes, the patient should be placed in a warm bed between blankets with her head low; heat should be applied by means of hot water bottles, and enemata of hot saline solution and stimulants administered. The best enema in such a case is, according to Dr. Kelly, one containing 2 ozs. of brandy, 20 grs. of carbonate of ammonia, and hot water or beef tea to 8 ozs. At the same time brandy, ether and strychnine are administered

hypodermically. Opinions differ with regard to morphia, but I think its use should be restricted to cases in which pain is an important factor in the nervous depression. Excepting in cases where loss of blood has been considerable, saline infusion is of little value, though in some cases of protracted shock, it might, as Mr. Watson Cheyne has pointed out, prevent coagulation of blood in the pulmonary vessels, a recognised cause of death under such circumstances.

Ileus is one of the greatest disappointments that an abdominal surgeon encounters. I have lost two patients from this cause during the past year, one twelve months and the other six years after operation. The former occurred in England and nothing was done; the other came into hospital on the sixth day after obstruction, too late to save her life. Excluding cases of paralysis due to peritonitis, ileus is generally due to adhesion of intestine to raw surfaces, either the abdominal wound, the stump or pedicle, omentum, or surfaces denuded in enucleating tumours or breaking down adhesions, constriction of bowel by bands or from a coil of intestine slipping through a hole in the omentum, kinking of intestine or volvulus. Cauterised surfaces and those deprived of epithelium by abrasion have been blamed for this accident, but this has been denied by others, and it is doubtful whether such injuries would cause adhesion unless deeper structures were destroyed. It has also been stated that septic infection is necessary, but experiments have shown that this is not the case, and that with the most rigid asepsis adhesions as a rule take place. When intestines are long exposed and much manipulated, they undergo changes to which I have already alluded, and adhere together. Walthard found that where the peritoneum had been long exposed the superficial epithelium perished, and an inflammatory demarcation formed between the dead and living tissues. If two surfaces thus affected remained in quiet contact they adhered. If they were not so left fibrous changes only

occurred, nor would a surface so affected adhere to a normal one. Sängcr, as I have already mentioned, adopted these views, and attributed some cases of fatal ileus to the use of dry asepsis; but Uhlmann states that in a number of cases in which the abdomen had to be opened a second time in Zweifel's clinic they always found adhesions to the wound, to the stump, or to places denuded of peritoneum, but never between coils of intestine that had been exposed to the air, and I think that this will be found to coincide with the experience of most operators. The early diagnosis of this complication is of the utmost importance, but unfortunately this is often impossible. Where the symptoms set in suddenly with violent paroxysmal pain in a localised position, where the peristaltic action of the intestine can be seen and felt through the abdominal wall, and the patient lies prostrated between the attacks bathed in cold perspiration; where neither flatus nor fæces are expelled after energetic efforts to procure evacuation, where vomiting sets in after the second or third day, and the abdomen becomes distended, an error is scarcely possible, but such a stormy onset is exceptional, and most of these symptoms are simulated by other conditions. The obstruction may even be incomplete, and the bowels may be evacuated at intervals, and yet the patient may be lost. In any case, active measures should be at once employed to induce the bowels to act, the stomach should be washed out, and copious enemata administered with a long tube, and where the stomach can tolerate it, calomel, Glauber's, or Epsom salts administered. Should these measures fail, the abdomen should be re-opened without further loss of time. The earlier the gut is freed the better is the prognosis. As to prophylactic measures, Trendelenburg's position is one of the most important, since the bowels are out of the way and are not disturbed, but when the patient is restored to the horizontal posture especial care must be taken in arranging the intestines in their normal position, and seeing that they preserve their natural relation to the

omentum. Coating raw surfaces with collodium has been recommended, and Martin of Berlin introduces a sponge soaked in sterilised oil, but most operators attach more importance to drawing down the omentum between the abdominal wound and the intestines, and as far as possible covering all raw surfaces with peritoneum.

Thrombosis occurs from septic infection, or from prolonged pressure of pelvic tumours upon veins, or sluggish circulation due to the quiet recumbent posture or the change in the intra-abdominal pressure due to the removal of large tumours. As thrombus is a potential embolism, and as it may be set free even at a late period, patients should be cautioned against violent efforts or straining for some time after an abdominal operation. I lost a patient from this accident during the third week after operation; she had been sitting by the fire talking to the other patients, and was in the act of pulling off her boots when she suddenly was seized with a feeling of suffocation, precordial anxiety, gasping respiration, cyanosis, and died in a few minutes.

Of *Tetanus* I have had no personal experience.

Peritonitis.—A question of much importance is whether peritonitis is always septic. Many would answer this question in the affirmative, but there is much to be said on the other side. There is a condition called traumatic or plastic peritonitis; it is best marked in cases where the intestines have been long exposed and much manipulated, and where wide areas of adhesion have been separated. In the worst forms of this affection there is vomiting, severe pain in the lower abdomen, tympanites, tenderness on pressure, accelerated pulse, and elevation of temperature. Death may result in such cases from pressure of the distended intestines on the diaphragm or from ileus. The treatment of this condition recommended some years ago by Mr. Lawson Tait, namely, free purgation, is, I believe, at the present time the recognised method. The non-infective character of many of these inflammations has

been proved by Dr. Howard Kelly, who, when obliged to re-open the abdomen to relieve obstructed bowel, found extensive union between adjacent peritoneal surfaces, but these cases failed to show any kind of micro-organism in the peritoneal cavity, and yet the evidences of the pouring out of plastic lymph with the subsequent formation of adhesions were abundant.

Septic Infection.—I now come to septic infection, the most important part of our subject, including the germ theory of disease, yet how can I deal with it in such an assembly as this? What can I add to all that has been said and written upon the subject? The part played by living organisms in the production of disease has been most firmly established by "many infallible proofs," and appears to me as certain as the law of gravitation or the shape of the earth. I shall not, therefore, try your patience by repeating the arguments now upon which the germ theory is based, nor shall I describe in detail the various conditions to which the introduction of such organisms into the human body during abdominal operations may give rise. I would rather employ the few remaining moments allowed to me in considering how best their entrance may be prevented, and the effects of such contamination treated.

Some who place their faith in procuring absolutely aseptic conditions spare no pains in attaining this object, whilst others regard such extreme precautions as superfluous, and laugh at those who practise them as extreme ritualists; some even discarding all precautions excepting cleanliness, and attributing their success to perfect technique and skill in operating. For myself, I must confess that I am a ritualist. Since deaths from infection still occasionally occur, we cannot flatter ourselves that we have reached perfection, though even at present such fatalities are more often due to imperfection in carrying out already acquired knowledge than to the lack of reliable information. Most of us have, I imagine, passed from antiseptic to aseptic methods in the treatment of wounds; the former method

went too far, in that fresh wounds and healthy peritoneum were treated as if they were septic, whilst on the other hand chemical agents were not absolutely efficient in the prevention of infection. The present aseptic treatment consists essentially in perfect cleanliness, and whatever others may say, I have no hesitation in stating that the doctrine of cleanliness originated with and has been based upon the teaching and practice of Lawson Tait and Bankock. Years ago, whilst most of us were practising antiseptic methods, they, in the face of bitter opposition, insisted upon the importance of perfect cleanliness, and pointed out the injurious effects of chemical substances in irritating and poisoning the tissues. And at the present time we differ from them only in the meaning of the word *perfect*, for, whilst they are satisfied with ordinary cleanliness, we strive after and in a great measure obtain not only macro, but also microscopic, cleanliness. By perfect asepsis, then, we understand that everything which comes in contact with the field of operation must be absolutely pure. "Everything" includes not only the operator and his assistants, his instruments and dressings, but also the air and water. An operation may be carried out aseptically in any ordinary room, but this is achieved with great difficulty and risk, so that in my opinion so serious a proceeding as cœliotomy should, except under peculiar circumstances of emergency, always be performed in a special apartment so constructed that absolute cleanliness can be insured with pure air free from draughts, ample supplies of pure water and good light, and heated to about 80 degs. F. The operating theatre in the Rotunda Hospital is divided into two parts by a glass screen, in the first of which are placed the basins, sinks, instrument cases, sterilisers, and platform for spectators, all of which are indispensable, but would be difficult to clean with sufficient ease and rapidity, especially where several operations have to be performed in succession. Their absence from the inner compartment enables its furniture to be so simple that it can be thoroughly hosed out in a few minutes.

A pure atmosphere, free from draughts and dust, and uncontaminated by spectators, is obtained by its complete isolation, its simplicity of construction, and the cleanliness and dampness of its walls. Whilst the high temperature of the inner compartment enables us to dispense with blankets, maintains the patient's vitality, lessens shock, and dissipates mist, the outer compartment is so cool that the spectators, though dressed in their ordinary clothing, suffer no inconvenience.

Lastly, it enables the spectators to approach close to the operation without any risk of disturbing the operator or meddling with his arrangements.

Where an operation has been carried out with thorough aseptic detail and hæmorrhage completely arrested, drainage, one of the most important aids to success in former times, is now but rarely needed, but can never, I fear, be entirely abandoned.

With regard to the after-treatment of septic cases, I shall only state that I place most reliance upon alcohol; of anti-streptococcic serum I have had but little experience, and that of a not very favourable kind. The re-opening of the abdomen and thorough washing of the cavity I view in a pessimistic manner, though Howard Kelly speaks of it with approbation. The chief difficulty is diagnosis, for when this is clear it is generally too late to interfere.

In conclusion, I may epitomise these somewhat fragmentary remarks with the advice of Doyen. *Opérer vite et bien.*

The PRESIDENT observed that the paper was one of great practical importance and interest. It touched on all those vital points in the post-operative period which made even the most experienced operator anxious, and the interest in them was universal, because no surgeon knew beforehand whether he might not have to face one or other of the complications mentioned. There were other accidents, to which Dr. Smyly had not referred, but which would no doubt, be mentioned in the course of the discussion.

Professor JAPP SINCLAIR (Manchester) said that he had not heard a paper dealing better or more concisely with its subject than that of Dr. Smyly; and on all essential points he found himself in entire accord with the author. With regard to *shock* he had nothing to say to its nervous origin, as to which he did not feel very convinced; he took the view that hæmorrhage played a predominant part in its causation. All the cases of shock which he had seen had been due to hæmorrhage, the result in some cases of accident, in others of blundering. He therefore looked on shock and hæmorrhage as equivalent, with a very few exceptions such as cases of heart disease. One cause of death was a want of tone in the bowel, which in some cases was chronic, the result of chronic constipation; and he always operated on such cases with great anxiety. These patients might go on all right for a few days, then symptoms of intestinal paresis came on and the patient succumbed. Examination after death showed nothing to indicate ileus, pressure on the bowel, or any other form of intestinal obstruction; and before death there was no indication for a second operation. In one case he was told by the nurse that almost the whole of the contents of the bowel came away half-an-hour after death. Another cause of bowel trouble was pressure, such as that of a hæmatoma in the broad ligament. He had a case of this kind, and it was only by the exercise of great force, such as only extreme necessity would justify, that he was able to get a rectal tube past the swelling, and the symptoms then subsided, and the patient got quite well. He agreed with Dr. Smyly's remarks about ileus, but would add that as regards prophylaxis, he thought they were often too late in giving aperients. When there was any doubt, peristaltic action could almost always be set up by calomel, which he gave on the day after operation, in hourly grain doses. In cases where raw surfaces had to be left, through the separation of adhesions or removal of portions of peritoneum, he always liked to leave some saline solution in

the peritoneal cavity ; this allowed the bowel to float and diminished the risk of bowel adhesions. Of course, in this case they must not drain. With regard to *peritonitis*, he believed that there was a non-septic form, and in these cases purgation was successful ; but he did not believe that purgation succeeded when the peritonitis was septic ; on the contrary, it might make matters worse. As far as he knew, no micro-organism except the streptococcus led necessarily to a fatal result. His experience of anti-streptococcic serum coincided with that of Dr. Smyly ; the serum might reduce temperature, but he had not seen a case where it had saved the patient's life. He thought that Dr. Smyly gave undue credit to Tait and Bantock in the advocacy of cleanliness ; he remembered being very shocked at a description of the way in which Tait flushed out the peritoneum, teaching that it would do no harm to flush out with Birmingham tap-water. Judging from the agitation to secure purer water in that city, he thought the tap-water there was not above suspicion. Such teaching was not one of cleanliness, and was likely to encourage carelessness among many operators. He had just received a pamphlet advocating the flushing of the peritoneum with saline solution, as if it were a new thing ; his impression was that he had recommended this some twenty years ago.

Dr. WILLIAM WALTER (Manchester) thought Dr. Smyly was right in drawing attention to shock as in itself a cause of death. When he was a student, a surgeon never did an ovariectomy without first asking a physician to test the condition of heart and kidneys ; he thought this precaution was neglected nowadays. Too often a patient came in one day and was operated upon the next. Delay was especially necessary when a patient had been badly fed and came from unhealthy surroundings. He must confess to making a mistake sometimes in this matter, owing to the exigencies of hospital practice. The best way to prepare against the tendency to shock was to fortify the heart's

action with strychnine, and to operate in a warm room, guarding against cooling of the intestines with warm compresses, &c. Perhaps the best thing of all was the Trendelenburg position ; since this had been introduced patients seemed to bear difficult operations much better. It was often difficult to diagnose shock from internal hæmorrhage. In guarding against the latter, he thought they were sometimes not quite careful enough. For instance, if the pedicle had been cut too near the ligature, the surgeon was apt to think it might do, even if he did not feel quite satisfied about it, whereas he ought not to be above tying it again. He would remark in this connection that the Staffordshire knot tended, in his opinion, to cause hæmorrhage, for it often cut through the tissues almost like a knife. Proper attention to the pedicle was one of the most important safeguards against hæmorrhage. Another mistake was in having a transfixion needle with too large a point. This might lead to tearing of a vein and fatal hæmorrhage. He had lost one patient in this way. He believed that death might be due to violent emotion. Thus he had a case in which the patient was told some bad news, and hæmorrhage coming on suddenly led to a fatal result. Hæmorrhage from adhesion sites was always difficult to deal with, especially as at the time of operation there might be no sign of it, and on the return of consciousness it might come on. When secondary hæmorrhage occurred he thought that, unless one were actually on the spot, it was almost impossible to save the patient. If it were necessary to re-open for hæmorrhage low down in the pelvis, he advocated the plan of opening the vagina instead of the abdomen, washing out with very hot water and packing with gauze. This procedure saved time, and was attended with less shock. By trying too much they might lose the patient. For septic peritonitis, re-opening the abdomen did not answer, as the patient was seldom able to stand a second operation. He did not believe in opium and morphia in the treatment of peritonitis ; they only tended to increase the intestinal paralysis. He preferred calomel and salines given early.

Dr. GEORGE ELDER (Nottingham) observed that any one experienced in abdominal work must always approach a case with some anxiety. He agreed with Dr. Walter that in some cases bad results might have been due to too great hurry in operating before the patient was fit to stand it. It was well to wait three or four days, and to employ the time in learning the patient's habits, in getting her accustomed to her surroundings, and in seeing to the condition of bowels and kidneys; he regarded the latter as most important. To illustrate the value of the patient's history, he might mention a case he saw fifteen or twenty years ago. He performed ovariectomy, and after doing well for a few days the patient collapsed. The matron, a most competent woman, discovered that the patient had been in the habit of taking large doses of laudanum, whereupon she gave her a drachm at once, and the patient rallied and eventually got well, the laudanum being continued for several days. Shock was not so often seen at the present time because operations were done more quickly and under better conditions. He did not like to operate on any woman who had made up her mind that she was going to die. No doubt many deaths formerly put down to shock were really due to hæmorrhage. There was one symptom which he had not seen described, but which he believed to be pathognomonic of hæmorrhage, viz., intense pain of a shooting character uncontrolled by morphia. Dr. Walter had said that his experience of re-opening the abdomen had been unfavourable, and he had compared the results with those of re-opening for peritonitis. But he did not think that the cases were comparable; he had rarely seen a case in which the abdomen had been re-opened for hæmorrhage, where the patient did not recover. As regards peritonitis, he believed that fatal cases were due to sepsis. He was surprised to hear Dr. Smyly give the credit of aseptic surgery to Bantock and Tait. He was himself an old pupil of Lister, and he felt sure that what they knew of asepsis was due entirely to the untiring efforts of Lister

during the last twenty-five years. There was one kind of sepsis which no antiseptic precautions could get rid of, and which only time could render harmless, and that was the sepsis arising from operations for puerperal peritonitis or for the clearing out of a putrid placenta. He had lost two patients through operating too soon after such cases ; one was an ovariectomy, which he did four days after an operation for puerperal fever.

Mr. J. W. TAYLOR (Birmingham) said that they might gather from Dr. Smyly's paper that the causes of death after coeliotomy were not simple but complex, and that shock was a factor of considerable importance ; but he did not think that he had ever seen a death due directly to shock, though he had seen cases where death was due to sepsis, predisposed to by hæmorrhage and shock. As regards ileus, he thought the use of dry sponges might lead to it ; for he had had more difficulty in getting the bowels open after the use of dry than after moist asepsis. The discussion seemed to have centred round the question of asepsis ; he believed that the three chief factors in the production of sepsis were sponges, hands, and the breath of the operator. He had had the opportunity of seeing work in Birmingham under conditions that could not be considered aseptic ; and this experience had helped him to see which details were of more and which were of less value. He had not seen a death due to the use of tap-water ; nor had he seen one attributable to instruments that had been carefully cleaned, even when these had not been boiled ; but in the three factors he had mentioned he believed the chief danger lay. With regard to treatment, he agreed with what had been said as to the value of calomel ; he always tried to get the bowels open by six o'clock on the morning following the day of operation ; if they were not open then, he gave small doses of calomel. There was another way to combat sepsis in cases where the kidneys were acting badly, and that was by means of the hot air-bath ; he believed he had seen this treatment

save several cases. In watching two or three outbreaks of peritonitis, he had seen that the characters of the outbreaks varied ; probably there were several kinds of peritonitis due to different kinds of micro-organism ; and they might hope for further light on the subject when they were able to distinguish not only between the clinical types, but also between the micro-organisms concerned. In conclusion, he expressed his thanks to Dr. Smyly for his valuable and interesting paper.

Dr. HEYWOOD SMITH said that a point which Dr. Smyly had omitted was the question of the idiosyncrasy of the patient. There were some patients who were described as slow healers, and who tended to go to the bad ; and it was well to keep such cases some days in hospital before operation. With regard to sepsis, he would observe that there were many different practices with regard to ligature material ; he was sure catgut had caused inflammation in some cases. He agreed with Dr. Doyen's dictum, *opérer vite et bien*, and as every time-saving detail was of importance, he thought that Greig Smith's forceps-needle was a useful thing ; it was a fine forceps, passed through the tissues as a pedicle-needle ; it was then opened, and the ligature could be rapidly seized and drawn through.

Dr. DUDLEY BUXTON said that there was one aspect of anæsthetics which bore upon the discussion, viz., the relation of chloroform to shock. The shock of operation was, to a great extent, caused or enhanced by the physiological action of chloroform, and this was most marked in anæmic persons, and in those who had lost much blood during operation. The explanation of the action of chloroform under these conditions was to be found in the alteration of pressure of the abdominal contents after the abdomen had been opened. For the maintenance of intra-abdominal pressure the action of the recti and of the diaphragm was needed ; and during cœliotomy this action could not be exerted. When, in addition, the

action of the nerve centres was weakened by anæmia the effect of chloroform in lowering blood pressure through the filling of the "abdominal pool" was greatly enhanced. Consequently, the mere opening of the abdomen made the patient more liable to shock from chloroform than was the case in any other kind of operation. The Trendelenburg position minimised shock by assisting gravity in the prevention of cerebral anæmia. Another important point about chloroform was its liability to cause post-operation hæmorrhage. Some surgeons preferred chloroform because they got less bleeding during the operation, but the diminished hæmorrhage was due simply to the depressed state of the circulation, and as soon as the anæsthetic was eliminated from the system, bleeding was liable to come on. These two points came fitly within the scope of the discussion, but the general question of the choice of an anæsthetic was too large to enter into.

Dr. T. EASTES (Folkestone) mentioned two cases of pseudo-ileus. The first was a patient suffering from myoma and ovarian cyst. The latter was removed by ovariectomy, the myoma being left. After a few days symptoms of ileus came on. He opened the abdomen and put a tube into the colon, but she died, and he thought that death was due to the myoma acting as a ball-valve, and keeping up the obstruction. In the other case the obstructive symptoms were due to hæmatocele, and he carried out a much more active treatment; thus, he stopped all feeding by the mouth, gave nutrient and aperient enemata, and small doses of calomel. The result was satisfactory, and he believed that in such cases a similar plan should be adopted.

Dr. R. T. SMITH believed that patients might die of simple shock. Thus he had a case of double ovariectomy; the operation presented no difficulty, but an hour after the patient's pulse was 160, and she died in two days. The autopsy showed no hæmorrhage nor other cause of death, and he believed that it was due to vasomotor paralysis. But she had also had a good deal of nervous dis-

turbance. For the prevention of ileus, calomel was good when begun early, but he thought it was even better to give it three or four days before operation.

Mr. CHARLES RYALL said that there were cases where the shock was quite out of proportion to the time taken by the operation, such as operations involving the mesentery and hysterectomy. There was always shock at the moment when the uterus was being severed. In the preventive treatment of shock, flushing the abdominal cavity was a good thing. For acute obstruction he held that the proper treatment was to open the bowel and relieve it of its contents, in just the same way as tracheotomy was done for respiratory obstruction. He was in the habit of giving calomel in the evening of the day of operation and an enema next morning. If septic peritonitis came on, the treatment was that of an abscess ; drugs were useless.

Dr. SMYLY observed that he had no idea of detracting from Lord Lister's fame ; antiseptis came first, asepsis later, and in consequence of antiseptis. But Mr. Tait first showed that antiseptics were not only useless, but injurious to fresh wounds ; he also emphasised the importance of avoiding contamination of the operator's hands, and this teaching had led to the modern aseptic methods.

The PRESIDENT said that he did not know when Mr. Tait first laid stress on the importance of clean hands, or showed that antiseptics might be toxic ; but he was sure that when Lister first introduced the antiseptic treatment twenty-five years ago, cleanliness was laid down as one of the most important points. Moreover, every modern aseptic operation included antiseptis at some time before or during the operation. He believed that death from shock was almost always due either to hæmorrhage or to operation on a patient whose condition was not good enough to stand it. One of the most important points in an operation was the arrangement of the peritoneum and omentum. He had recently had a case of death after hysterectomy from peritonitis arising in the track of the wound, although every

possible care was exercised ; and so it was important that the possibility of this should be borne in mind. The possibility of auto-infection also should be remembered. Dr. Sinclair's remark that the streptococcus was the only harmful micro-organism was not in harmony with the views of bacteriologists, and he thought Mr. Taylor was right in saying that there were several kinds of pyogenic organism. The question of the operator's breath was an important one ; in Vienna, Chrobak and his assistants operated with a kind of facial mask on. The kind of case that he most dreaded operating on was not the patient who thought she was going to die, but rather the nervous woman who threw herself about after operation ; to tie her down and to give her freedom both had drawbacks ; in the former case the patient got worse, in the latter she might break open the wound. Kelly thought that the lesser evil was to give her freedom. In conclusion, he thanked Dr. Smyly for his valuable paper.

ORIGINAL COMMUNICATIONS.

THE MODERN DOCTRINE OF BACTERIOLOGY, OR THE GERM THEORY OF DISEASE. A REPLY TO G. G. BANTOCK, M.D., F.R.C.S.E.

By P. Z. HEBERT, M.D., C.M.

THE address on this subject, delivered by Dr. Bantock on March 9 last before the British Gynæcological Society, has awakened a new interest in the question at issue.

On the whole, the discussion which it has elicited, although of the liveliest character, has been disappointing. In the words of Dr. Bantock in his reply, his opponents have not dealt with his arguments. This seems to have arisen from the fact that there has been no time to consider the various points raised in the address, and it shows with greater emphasis the wisdom of postponing the discussion of any important papers read before the Society until these have appeared in print, so as to give the Fellows desirous of taking part in the debate, opportunity and time to review their own experience on the subject.

The principal points brought forth by Dr. Bantock are :—

(1) A statement that the presence of the various micro-organisms is the result and not the cause of disease, which is due to a specific material poison of the nature of, or allied to, leucomaines, or the snake, or other animal poison.

(2) That certain diseases, particularly diphtheria and gonorrhœa, are met with when their respective special bacteria cannot be found.

(3) That the special microbes of certain diseases, such as

the staphylococcus pyogenes, the streptococcus pyogenes, the bacillus coli communis, the bacillus of tetanus, Klebs-Loeffler bacillus of diphtheria, the bacillus typhosus, &c., are found in the vaginal discharge of a large proportion of healthy women and elsewhere without producing disease, and that the diphtheria bacillus can be found in the throats of subjects weeks or months after all trace of the disease has disappeared.

(4) That Dr. Stoker has shown that, under the oxygen treatment, wounds in which the healing process appeared to falter were found to be sterile, whilst by being inoculated with staphylococci and streptococci from a more healthy sore under the oxygen treatment, the healing process was reinvigorated.

(1 and 2) That some cases of diphtheria and gonorrhœa are met with in which no Loeffler bacillus or gonococcus has been found appears to Dr. Bantock to be a formidable argument against the germ theory of disease, yet how placidly he formulates a theory that the cause of these diseases is in a material poison which has never been found by him or anybody else. If the fact of not finding the bacteria in a small proportion of the cases means ruin to the germ theory, how much more destructive to his own theory is the fact that such material poison as he postulates has never been found. His theory, therefore, is purely hypothetical. True, he has given an analogy in the snake poison, or leucomaines, but not a word of the fact of such poisons having been found or isolated in the above-named diseases, nor in any other contagious disease.

Now let us see what explanation we can offer to account for the absence of bacteria in some cases, even letting alone the probability of their being present in a proportion of cases in which they cannot be found, owing to the imperfection of means for their detection.

Diphtheria, we all know, is one of the diseases which present many difficulties of diagnosis, especially in the early stage, owing to the many forms of sore throat with which it

may be confounded, such as putrid sore throat, common membranous sore throat, membranous croup, tonsillitis, the sore throat of scarlet fever, &c., so that it becomes a very doubtful point as to whether, in some of the cases in which no bacilli can be found, we have not to deal with some one or other of these forms of diseases which are not diphtheria ; and, in the absence of more accurate knowledge on the subject, we cannot reject the facts that we possess in the great proportion of those cases in which the bacillus is found, in favour of the hypothesis of Dr. Bantock, who has never found any such poison as he mentions in any case of those diseases.

Let us now take gonorrhœa, in the treatment of which, during a practice of over twenty-five years, I can claim a good share of experience. That many cases of urethral or vaginal discharges are not gonorrhœa need not be stated in an article intended to be read by medical men ; moreover, that many cases of such discharges have been pronounced to be gonorrhœa, though they were not, I have not the slightest doubt ; and with the view of exemplifying my meaning I may instance a case which came under my notice some time ago. A married woman came to me saying her husband had accused her of having communicated gonorrhœa to him, and she wished to be examined to know if she had such a disease. I did so, and, after asking her to come a second time so as to eliminate the possibility of certain precautions of cleanliness having been taken to mislead me, I gave it as my opinion that she had no gonorrhœa. The husband called on me and said he had had the opinion of another medical man who told him he had gonorrhœa, and he was prepared to aver that he had not exposed himself elsewhere than with his wife. I enquired into the history of his case, and I elicited the following facts : one morning, after visiting his wife, he noticed some irritation and glutinousness at the urethral meatus ; he went to the chemist and bought a pennyworth of sulphate of zinc, of which he made a solution and used it

as an injection. The next day a profuse discharge was noticed, and he went to a medical man who pronounced the case to be one of gonorrhœa. I told the man he suspected his wife erroneously; the "gonorrhœa" he had was due to the sulphate of zinc injection he had used, and, if he only left it alone, the discharge would disappear in a few days without treatment. He did so and found that I was right. I could relate many other similar examples, but this one will suffice to illustrate my meaning.

Before I could accept the statement of Dr. Bantock that, in those cases he mentions, he had to deal with true cases of diphtheria or of gonorrhœa, I should require some history of the case which would place beyond all doubt the possibility of such error, without which the statement of Dr. Bantock has no weight as an argument against the germ theory. On the other hand, I can quite conceive a urethritis, gonorrhœal or otherwise, of long duration to so alter the vitality of the urethral mucous membrane as to leave some lesion which would persist quite independently of the presence of the gonococcus, without rejecting the germ theory or having recourse to Dr. Bantock's theory of material poison for an explanation; and, if such a case should ultimately get well, I should not be surprised that the cicatricial tissue left in the mucous membrane once so altered might, even years after, take on inflammatory action of a chronic character or otherwise in the absolute absence of the gonococcus; nor would it shake my view that true gonorrhœa is due to a specific microbe, if any student were found to be wrong in propounding a theory that a decrepit gonococcus derived from a gonorrhœa of years past, might be the cause of a urethritis where no trace of true gonorrhœal contamination existed.

The error would be in formulating a theory to account for true gonorrhœa where only a simple urethritis existed; but such an error could be no argument against the germ theory with reference to true gonorrhœa.

(3) That special microbes should be found in healthy

subjects without producing disease in them surpasses Dr. Bantock's comprehension. Should it be so? We know as facts that, when an epidemic breaks out in a community, only a portion of it is affected. If, say, six persons visit a patient suffering from a contagious disease, or expose themselves to contagion in a similar degree, and only two of them take the disease, this is considered to be a very ordinary occurrence. If a dozen vaccinations be performed from the same stock of vaccine by the same man and one of them be unsuccessful, Dr. Bantock would not say that, because one of them did not succeed, therefore vaccine is not the cause of vaccinia. All these are parallel facts to finding pathogenic microbes in healthy subjects without producing any disease, and none of these occurrences should excite astonishment. Other conditions are necessary besides the presence of the microbes to produce disease, and yet I cannot follow Dr. Bantock when he illogically infers that if other conditions be necessary for an attack of disease, as cholera, the presence of a bacterium, such as the vibrio, can be but a coincidence or a consequence. Dr. Bantock, in this instance, misconstrues the meaning of a condition—should I say in his own words—simply to bolster up his favourite theory. To make the position more clear, I will instance the disease vaccinia, which Dr. Bantock in his paper acknowledges to be produced by vaccine essentially; but I say that other conditions are necessary besides the mere presence of vaccine to produce an attack of vaccinia. One of these conditions is that, if the vaccine be left on the table undisturbed in the capillary tube, instead of being inserted into the scarified arm, it will not produce vaccinia. (No doubt Dr. Bantock will appreciate the value of this ridiculous argument.) Another condition is that, if the arm be not scarified and the vaccine simply rubbed on the un-wounded skin, it will most probably not produce vaccinia; again, if the vaccine be inserted in the scarified wound from which the bleeding is profuse, the vaccine may be washed away from the wound by the flowing blood and not pro-

duce vaccinia, as experience may teach every day in the practice of vaccination ; or no doubt in some cases the vaccine may be duly inserted into the circulation and not produce vaccinia, as some vaccinators may readily testify. Applying these rules to microbes, it is not beyond our comprehension to conceive the similarity of action in microbes present on the skin or on a mucous membrane. If the skin or mucous membrane be not wounded in some part, it may be impossible for some of those microbes to attach themselves firmly enough to the part to abstract their nourishment from it and cause disease in it. If they do attach themselves, they may be unable to penetrate the sound skin or mucous membrane sufficiently for the same purpose ; again, if the mucous membrane secretes or excretes a fluid, that fluid may wash them away effectually to prevent disease, as has been shown in the example of vaccinia given above. There are also many other conditions of temperature, environment, resistance of tissues which can be easily understood.

Moreover, upon this question, there is a biological fact known which, as far as I know, has not yet been brought into line with the science of bacteriology as applied to the etiology of diseases, and which would explain the presence of bacteria in many instances without the production of disease.

It has been observed that, in unicellular organisms of a low order, in the majority of species, two of them occasionally unite together so as to become one or, at least, so as to establish an interchange of substance between their nuclei. These united pairs subsequently begin to multiply by division and subdivision, and continue to be reproduced for a considerable number of generations before a similar union again takes place ; but recent researches have shown that the number of generations capable of being reproduced from a single pair exclusively is limited, and that the descendants of such a pair ultimately perish unless a union again occurs between one of its descendants and a descendant of another conjugated pair.

I now quote the following from Thompson's "Elements of Zoology :"

"This riddle was in part solved by a long series of careful observations.

"In November, 1885, Mons. Maupas isolated an infusorian '*stylonichia pustulata*,' and observed its generations till March, 1886. By that time, there had been 215 generations produced by ordinary division, and since these lowly organisms do not conjugate with near relatives, there had, of course, been no sexual union.

"What was the result? At the date referred to, the family was observed to have exhausted itself. The members were being born old and debilitated. The asexual division came to a standstill, and the powers of nutrition were lost.

"Meanwhile, before the generations had exhausted themselves, several of the individuals had been restored to their natural condition, where they conjugated with unrelated forms of the species. One of these was isolated and watched for five months, and the usual number of successive generations occurred. On to the one hundred and thirtieth generation, members were removed at different stages, and were observed to conjugate successfully with unrelated forms. When the family began to draw near its end, even removal to fresh conditions was without effect.

"About the one hundred and eightieth generation, the strange sight was seen of individuals of the same family attempting to unite with one another. The results were, however, *nil*, and the conjugates did not even recover from the effects of their forlorn hope.

"Without the normal sexual union, then, the family becomes senile. Powers of nutrition, division, and conjugation with unrelated forms comes to a standstill. This senile degeneration is very interesting. The first symptom is decrease in size, which may go on until the individuals may not measure over a quarter of their normal proportions. Various internal structures then degenerate, until at last we

see formless abortions, incapable of living and reproducing themselves."

The knowledge of this biological fact introduces another important condition which, without inferring the organisms to be a consequence of disease, as Dr. Bantock would have it, would explain the presence of organisms even in great number and for a considerable time without the production of disease. This might account for the presence of the bacilli of diphtheria in the throats of patients weeks and months after the disappearance of the disease; and perhaps it might afford some solution of the puzzle of gonorrhœa (if true gonorrhœa it be) recurring a long time after its cure without fresh infection, in that two unrelated germs are brought in relation together from two subjects having previously suffered from gonorrhœa, and in whom such germs were incapable of active reproduction in either subject alone for want of such unrelated conjugation, and, therefore, incapable of producing the disease.

(4) The experiments of Dr. Stoker, although valuable in themselves, throw no light upon this question. That the staphylococcus and the streptococcus under a plentiful supply of pure oxygen appear to do no harm to, or even to invigorate, the healing of a wound does not show that these cocci are not injurious to wounds, or the cause of suppuration when no pure oxygen is used. The experiment in this case is vitiated by the possibility of these cocci deriving their virulency from their abstracting oxygen from the tissues under ordinary conditions, whilst they may obtain it from the oxygen supply under the oxygen treatment, leaving the tissues unimpaired. The experiment introduces the knowledge of a new fact in relation to those cocci, but is not sufficient to contradict any other knowledge relating to them under other circumstances than in the presence of a supply of pure oxygen.

Various other less important points were raised by Dr. Bantock in his paper. He expatiates at great length on the failure of Koch's fluid to cure tuberculosis; but the argu-

ment is irrelevant, for admitting that tuberculin is an absolute failure as a cure for tuberculosis would not afford the slightest evidence against the doctrine that the tubercle bacillus is the cause of tuberculosis.

Again, Dr. Bantock refers to the enormous multiplication which takes place in an attack of small-pox from an almost infinitesimal quantity of the contents of a small-pox vesicle inserted at the proper stage under the skin of a perfectly healthy subject, and characterises the idea that this extraordinary state of things should be due to the action of a special form of bacillus as incredible; but this extraordinary state of things is much more in favour of the germ theory than of the doctrine of a material poison resembling snake poison, as we know for a fact that germs multiply with extraordinary rapidity, and there is no known organic poison, such as that of a snake or other animal, known to multiply itself apart from the living organ which produces it, and, when introduced into the blood or tissues of another animal, it no more multiplies itself there than a poisonous dose of aconite or belladonna, or a chemical poison like arsenic.

Nothing more than the amount of arsenic which has been introduced into the body of a person poisoned by arsenic can be found in that body, and so it is with the poison of snakes, or aconite; but, in the case of small-pox, such multiplication takes place in the body of the patient to the extent mentioned by Dr. Bantock, and if Dr. Bantock holds a different view on this point, will he give his facts in support of it?

Another assumption of Dr. Bantock is that microbes are capable of feeding upon the dead tissues or blood and still may be beneficial to living tissues, whereas the most plausible reasoning is that if microbes can abstract nourishment from dead tissues, some of them, at least, are most likely to do the same when the vitality of such tissues has been lowered, even if not to the degree of causing death, and by such abstraction of necessary elements injure the

tissues and cause disease ; we have undeniable examples of parasites, for instance, attacking the tissues even in health, such as the *acarus scabiei*, the parasites of favus, ringworm, &c. Surely Dr. Bantock would not, in harmony with his doctrine of the presence of microbes in disease, hold that the burrow of the *acarus* is produced by a material poison *which furnishes the conditions necessary for the presence* of the *acarus* which is found there, only accidentally, or for a beneficent purpose to the human economy.

Dr. Bantock indulges in most remarkable arguments. He asks, "What about malaria where there are no mosquitos?" as an argument against the theory that mosquitos may be the means of conveying the organisms which cause malarial fever : but could it preclude the possibility of infection being conveyed by mosquitos where they exist, if it be found that, where they do not exist, infection were carried by some other means, as, say for instance, by blue-bottles or by the wind? Evidently Dr. Bantock believes in absolute monopoly, and that if mosquitos were not left exclusively in charge of that duty, it could not be done at all, as they would resent the intrusion of other helpers, and would decline the office altogether. As for the possibility of the occurrence, it appears to me as easy for a mosquito to carry a microbe as for a camel or an elephant to carry a man.

Again he says : "Where is the evidence of secretion in bacteria? Do they possess a secreting organ?" Would it help Dr. Bantock if the word excretion had been used instead? Does he deny that bacteria, like the cells of which the body of multicellular animals is composed, have an individual life, that the material which they absorb for nourishment, after serving its purpose, is rejected; that the substance of those cells is itself renovated and the old material excreted? If Dr. Bantock deny these facts, I could only refer him to works on physiology and, if he required stronger evidence, I should say then let him observe it for himself by means of the microscope and chemical analysis.

Finally, Dr. Bantock gives us the warning words of Cromwell, and I reply : Yes, I think it possible we may be mistaken ; but does this prove that we are mistaken in this particular instance, unless Dr. Bantock could show that we are always mistaken ? and if this warning is given as an argument against the germ theory, it could be refuted completely by saying ditto to Dr. Bantock with regard to his own opposite doctrine to which the remark applies equally well.

I do not propose to follow Dr. Bantock into the churchyard of King's Lynn or the wells of Farleigh, referred to in his address, respecting the bacillus typhosus, the evidence adduced being too complicated and insufficient to lead, by itself, to a definite solution of the question at issue.

It may be observed, however, that some of the remarks directed against Dr. Bantock's paper at the meeting by his opponents had no bearing on the question.

Dr. Macfadyen simply characterised the attitude of Dr. Bantock as one of pure negation, which all those present had already learned at the beginning of Dr. Bantock's paper. He considered the address to be a "confession of faith" unsupported by any facts, but he himself adduced no facts in support of his attitude of affirmation, which is the side from which facts are expected.

Dr. Godson's remarks do not disprove the theory of Dr. Bantock, nor do they prove the germ theory. Dr. Godson has established a most valuable fact by observing that the use of bichloride of mercury prevents the development of septicæmia after parturition. The advocates of the germ theory may explain the fact by formulating the theory that the germs causing the disease are destroyed by the bichloride, and also support their view by showing that the same germs are destroyed by the bichloride outside of the body ; but Dr. Bantock would be perfectly logical from the point of view of his own doctrine in admitting the facts observed by Dr. Godson, and to formulate a different theory to explain those facts by contending that the bichloride

destroyed the hypothetical material poison which he assumes is the cause of septicæmia, and that, therefore, the disease would likewise be prevented if the bichloride did not kill the germs at all, provided it destroyed the hypothetical material poison referred to. Dr. Bantock might also explain the beneficial effect of the bichloride by its direct action, chemical or otherwise, on the tissues, either of which theories would be logical, according to the view one held respecting the cause of the disease, which is the real question of fact to decide; but these theories only evolve from the facts, although the facts themselves remain and cannot lose their value, whether one theory prevails or the other. It follows, therefore, that the observations of Dr. Godson do not by themselves prove the germ theory, any more than that of Dr. Bantock.

Dr. Routh's remarks fail in the same way. He says: "How could they explain the fact that certain fluids coming in contact with healthy persons produced disease? and also, how was disease produced by students coming from the *post-mortem* rooms?" Dr. Bantock would account for it by his hypothetical material poison being present in such fluids, or being brought in by the students to these healthy persons. The phenomena of putrefaction could be explained from a chemical point of view.

Again, Dr. Jellett asked: "If Dr. Bantock believed in the grosser forms of septic defilement which could be removed by any slight washing, why should he not believe in forms which required a more scrupulous washing to remove?"

The inference that, because he believed in the one he should also believe in the other is illogical, as germs could not necessarily be septic simply because dirt was, and as Dr. Bantock's view is that germs are not septic, or not the cause of disease, he is, therefore, perfectly logical, from the point of view of his doctrine, not to attempt to remove them. The question is not essentially one of the degree of washing required, it is whether, on the one hand, chemical or mechanical dirt only is septic, or, on the other, dirt and

germs are. In the first case dirt only requires removing, in the other both dirt and germs. Dr. Jellett's other question is not to the point either. Dr. Bantock would not operate immediately on a non-septic case after operating on a septic one, not because of his fear of the germs, but because of the possibility of conveying the material poison he speaks of as the cause of sepsis. In this, also, he would be logical from the point of view of his doctrine.

Most of the remarks just referred to are irrelevant in that the speakers take for granted that Dr. Bantock admits the correctness of the germ theory, which he does not, and which requires proving in combating Dr. Bantock's views.

How, then, is the question to be decided? It has been noticed that both Dr. Bantock and his opponents admit the presence of germs in disease; the latter attributes the cause of certain diseases to some specific germs which Dr. Bantock denies, ascribing the presence of those germs to accident; but when Dr. Bantock is confronted with the question: How is it that when a pure culture of, say, tubercle bacilli is injected into an animal, this animal develops tuberculosis? he is obliged to take refuge in the hypothesis that something else has been injected with the bacilli, which something else he describes to be a specific material poison that can be handled and can be conveyed from one subject to another by inoculation, and is of the nature of, or allied to, leucomaines or the snake or other animal poison, which is the product of an organ especially constructed to that end, and not a bacillus! I have already stated that Dr. Bantock cannot produce such a material poison, and I may add that anatomy and physiology do not help us in pointing out such organs which produce such poison in the body, unless Dr. Bantock will venture to suggest the pineal gland or the vermiform appendix as the possible organs. Dr. Bantock does not tell us either if one organ is sufficient to produce all the various poisons peculiar to each disease, or if one organ is necessary to produce the poison of small-pox, another for that of tuberculosis, another for diphtheria,

&c., as, if we could find such organs, the complete removal of them would rid us of all the diseases that human flesh is heir to ; provided that, if each disease mentioned in the nomenclature of the Royal College of Physicians, or even, say, only one in ten of them, required a special organ to produce the poison causing it, there should be enough left of a man, after the complete removal of all these organs, to enable an ordinary mortal to see him without the aid of a microscope ; otherwise every man thus immunised would have to be classified in the category of microbes, and lose his claim to any relation to the human family.

Now I think I have effectually refuted the arguments of Dr. Bantock against the germ theory, and also his arguments in favour of his own, at least until some new facts can be brought to bear upon the point. There remains an effective means of putting the two doctrines to a crucial test, which would be for Dr. Bantock to attend a bacteriological laboratory in company with an expert bacteriologist, to follow the various steps whereby, *e.g.*, the tubercle bacilli are isolated from the other elements of the sputum of a recognised phthisical patient, to seize the moment when that mysterious material poison, which can be handled, is separated, and secure it, taking care that no tubercle bacilli get into the material poison and no material poison get access to the bacilli ; then to procure two guinea pigs, one of which is to be inoculated by Dr. Bantock with his material poison, and the other by the bacteriologist with his tubercle bacilli, and whichever of the two produces tuberculosis in his guinea pig shall be declared the victor in this burning debate.

TREATMENT OF WOMEN'S DISEASES BY BATHS.

By F. ENGLEMAN, M.D., Kreuznach.

I TAKE the liberty of communicating the experiences which I have obtained with this treatment on the strength of a more than thirty years' extensive practice at a place, which is every year visited by thousands of women, who suffer from manifold forms of diseases.

To begin with, I must say a few words about the effect of baths in general, and more especially of those that interest us most here, which produce a strong irritation of the skin.

The effects of an *indifferent* bath—that is, a bath which neither affects the body through its being of high nor low temperature—are manifold. It produces a feeling of ease and tranquillity, followed by a pleasant lassitude which continues during a longer or shorter time. The appetite is roused, the sleep becomes more restful and profound. The pulse and the action of the heart become slower while bathing, and at the same time the latter grows stronger; the respiration becomes slower, each breath deeper. The skin shows a slight redness. All these appearances last for a more or less long time, they show themselves less after a plain bath, but increase in intensity and length of time with the strength of irritating matters in the bath up to a certain individually different degree. If this is exceeded and the irritation of the skin too strong and too lasting, other disturbing appearances show themselves. It has been confirmed by experiment that the distension of the vessels as shown in the skin, which is originated by a paralysis of the vasomotor vascular muscles, as a consequence of the continued irritation, may be traced to great distances.

This distension and its duration is in direct proportion to the strength and duration of the irritation of the skin which the bath produces, and is the stronger and more lasting in proportion to the strength of the bath. It is further proved by experiment that the perspiration of the skin is increased, that more carbonic acid is excreted (and with it, no doubt, also organic elements); that the process of oxidation is raised and a considerably increased consumption of oxygen and production of carbonic acid may be averred. At the same time a strong incentive to diuresis takes place, while the urine becomes more concentrated. All these appearances imply that the *exchange of matter* (Hoffwechsel) is carried on more energetically in the body. Experiments have confirmed the accuracy and application of this theory. The albumen is decomposed more rapidly, the quantity of urine is increased, while at the same time the quantity of the secreted uric acid decreases, and in the same way the sum of the phosphates—especially the phosphate of lime—is lessened.

We further know by experiment, that in consequence of a stronger irritation of the skin in general, especially through baths, contractions of the uterus and intestinal muscles are caused by reflex action and that the activity of the liver, the secretion of bile, is diminished.

How can these appearances, which I have only been able to hint at, be made use of to explain the effects of baths on the organism, more especially *the strongly absorbing effect upon morbid productions*, which in this paper is the chief object of interest?

The former (apparently so simple) explanation, that the constituents of the bath enter into the blood and lymphatic vessels and produce their effect, that baths containing iodine, bromine and chlorine must therefore work absorbingly in the same way as these salts do when they are taken by mouth, cannot any longer be maintained, since, in spite of numerous and careful experiments we have not been successful in tracing them in the body. We must therefore

look for another explanation, and we find it in accord with facts in the irritating effect of the solid ingredients of the bath. Through these an irritation of the endings of the cutaneous nerves takes place, and by this means a great number of effects are produced. In the first place the whole organism is influenced and shows it in the stimulation and acceleration of the exchange of matter ; and secondly, a local effect is produced by working upon the circulation, expanding the vessels, and so favouring the conditions for an absorption of morbid productions. For on account of the increased flow towards the skin, there arises a diminished pressure in the inner organs and consequently conditions conducive to absorption are provided.

According to this theory the baths in question produce an effect similar to counter-irritants, such as sinapism, tincture of iodine, blisters, &c., which we are in the habit of employing successfully in chronic inflammatory conditions. There is, however, this great difference, that the irritation caused by baths is but very slight at any individual spot, whilst the sum of these irritations, in consequence of the great extent of surface, amounts to a most important factor which is able to produce powerful effects ; and what gives even more weight, it acts very gently, is easily graduated and adapted to each individual case and constitution. It is highly probable that besides the factors just mentioned there are others which cannot be established as yet.

I now come to the main point of my paper : Which of women's diseases are fit for treatment with baths, and what baths are suitable for them ?

Proceeding from the fact that baths are more or less absorbing, it may be asserted that for almost all chronic women's diseases bath treatment is advisable, for it will commonly be a question of enlargements of the organs or residuums from inflammations. The fresher and on the other hand, the more capable of absorption they are, the more will treatment by baths be indicated, and the better will be the results.

First of all, therefore, the inflammations in the vicinity of the uterus, the pelvic peritoneum and the pelvic cellular-tissue, which we generally term as peri- and parametritis (or, when they are more localised, perioöphoritis or perisalpingitis) will be taken in consideration.

Practical experience has confirmed a thousand times that such conditions are the very best for a bathing cure; that here success, complete success, may be obtained in cases which have resisted continued and rational treatment. Treatment with baths, however, does not work equally well in all cases. It is known that the progress of these inflammations is varied and that it may be clinically and anatomically distinguished. In one case the inflammation results in an exudation of a serous, fibrous, or purulent nature; we then find the uterus more or less surrounded by exudations which fix it. In the other case adhesions exist, we then find the uterus drawn to one side or the other (generally backwards); we can often feel the cord to be slightly strained, or find the whole surface of the uterus grown to the side of the pelvis.

In the first class the benefit of a well-conducted treatment with baths shows itself most distinctly. It is surprising how large exudations often disappear in a short time, and how the disorders originated by them are removed, so that the patients are entirely restored—even speaking anatomically—to such a degree that the most careful examination cannot discover any sign of a diseased condition.

The well known Berlin gynæcologist, Professor Dührssen—to let an observer speak whose judgment is more objective than mine can be—says, “I have observed a great many such cases and can assert that the cure has been a lasting one.” He then continues: “Such cases which are so frequent after confinement should much oftener than they are be sent to a bathing-place after the fever has disappeared, for a fortnight at least, and the patient is able to travel, and thus the second form would be best avoided.”

I thoroughly approve of the judgment of this experienced gynæcologist. The circumstances are different with the second kind, where adhesions have been formed. Such adhesions are quite inaccessible to a treatment by baths. Is it necessary to remove them? This is by no means always the case, and should then be done in a different manner. "Still," says Dührssen, "I advise such patients to be subjected also to a treatment with baths. In the first place such adhesions often become softer and more accessible to further treatment, and secondly (and this is the essential point) the pains of such patients are not simply caused by these adhesions but more particularly by the inflamed condition which the uterus is in: for metritis and endometritis are frequent attendants on such adhesions. We often find that the actual adhesions are there as before, but the annoyances are essentially improved; they have even disappeared to such a degree that the patients consider themselves completely well.

Not only in conjunction with chronic inflammation in the neighbourhood of the uterus are metritis and endometritis suitable for treatment by baths, but also where there are no traceable complications, they form an excellent aid towards a rational local treatment. Even where exudations and adhesions do not exist, there are often congestions in the neighbourhood, which, though they mostly disappear of themselves, are removed more quickly and thoroughly by treatment with baths.

The circumstances are somewhat similar with chronic inflammations of the ovaries and tubes. Diseased ovaries, diseased tubes themselves are favourably influenced by baths, still it depends on the nature of the pathological alterations, whether baths are advisable or not. In case of a collection in the tubes, of abscesses in the ovary, baths will only be used preparatory to the actual treatment, in some cases they should follow it.

For myoma and fibroma of the uterus treatment by baths is strongly to be recommended. The question how

far these diseases are directly influenced by it is still an open one. According to my experience, which comprises the observation of more than 1,200 cases, I incline towards the opinion that under favourable circumstances a reduction of the tumour is certainly to be expected. And why should such a result not be possible or probable? With many tumours the conditions for absorption are not unfavourable; there is sufficient vascularisation to carry away the softened tissue of the tumour. Therefore cases of an evident diminution of the tumour, which had been brought on by applying electricity or ergotine, have been reported by numerous competent observers.

If treatment with baths is used, it is necessary that it should be continued long enough and also repeated. Where this has been done, and, of course, where the conditions for absorption have been favourable, I have myself been able to note in many cases an indubitable, distinctly recognisable reduction of the tumours. In the first place of course the symptoms caused by the tumours are favourably influenced by a treatment by baths. The hæmorrhages as well as the pressure and above all the pains, which are caused by a chronic inflammatory condition of the peritoneum, get better or are entirely removed. There, too, the success is not always equally great, especially the hæmorrhages, which depend on different circumstances and are sometimes only influenced very little. Where there are vastly distended vessels of the mucous membrane over a great extent of surface on which the hæmorrhage depends, the effect is of course very slight; it is greater where plain hyperæmia of the mucous membrane in consequence of disturbances of the circulation, is the cause of the hæmorrhages. The symptoms caused by pressure and irritation, however, are unexceptionally removed, or at any rate decidedly improved. Good subjects for a treatment with baths are the disturbances which often remain behind after operations, caused by inflammatory conditions which follow operation. In a great number of such cases I have known the annoyances to disappear completely.

For a quantity of less important diseases baths are essential factors of a successful treatment. I first mention Leucorrhœa, be it caused by anæmia or general diathesis. Menstrual disturbances also fall under this head, amenorrhœa as well as dysmenorrhœa; if the course is accessible then these conditions are favourably influenced. We can say the same of sterility and habitual abortion.

Acute inflammatory conditions are not fit objects for treatment with baths, and if they take a subacute course baths ought to be used with great care and caution. The use of medicinal baths is absolutely excluded for cancerous diseases, which progress decidedly under their influence, and sometimes even make rapid progress.

No doubt it is best that the patient should, if possible, take the baths at the place whose waters are adapted to her disease. She does not only find there baths which act most energetically, but can at the same time use the waters inwardly. Besides all the other factors which are connected with change of air and life, viz., mental and bodily rest, regularity, fresh air and so on, work upon the patient, and last, not least, the physician knows the best way of using the waters. In a great number of cases it will, however, for all sort of reasons, not be possible to send the patients to watering places. Must we therefore give up this efficacious remedy? Not in the least, for people can very well take the baths at home, where their effect is similar though less energetic. Plain baths promote absorption to some degree. This is much more the case if we add salt in different quantities, but most especially, if at the same time we add the *Mother-lye*. This latter contains the ingredients of salt water, especially chloride and bromide combinations (principally chloride of calcium concentrated), and with its help it is possible to make artificial baths much resembling the natural ones. If, in addition to the baths, the patient takes some mineral water suited to her, lives regularly, takes exercises in the open air, and, if possible, shakes off care and worry, the circumstances are similar

to those she would find at a bathing-place, and will probably prove successful.

I will give a few short useful hints to those who take an interest in this matter. An efficacious bath ought to contain from 4 to 6 lbs. of common salt or sea-salt and besides 2 to 5 pints of mother-lye to about 400 pints of water. The strength depends on the strength of the patient and the kind of disease she suffers from. The pulse and respiration will be abated after the bath and the patient inclined to sleep. Agitation, sleeplessness and a lasting weakness imply that the bath has been too strong or too hot. The temperature of the bath should generally not exceed 95° F., the duration not to be more than half an hour. After the bath the patient should rest in bed, therefore the evening is a suitable time for bathing.

The number of baths should not be less than twenty; forty cannot well be taken without a pretty long pause. The patient either bathes every day or three times a week if she feels very tired after the bath.

Finally, I want to say what baths have proved most efficacious for the different kinds of diseases. I must content myself by mentioning German baths only, as I do not know the others well enough; nor am I able to speak of all the bathing places which have proved efficacious. It must suffice for me to name the chief representatives of the different classes. For the greatest number of diseases resulting from chronic inflammatory conditions, salt baths, more particularly those that contain iodine, bromine and chloride of calcium are indicated. They produce the strongest irritation of the skin and have this advantage, that by adding more or less mother-lye they may be adapted to every constitution and disease. As chief representatives of plain salt baths among a great number of similar ones I mention Ischl, Kösen, Kolberg, Rheinfelden; of those which contain iodine and bromine: Kreuznach, Königsdorff, Krankheit, Halle and Bex.

Besides salt baths, moor baths should be taken into

consideration. Their effect is also strongly absorbing, though not in so high a degree, since the irritation they produce on the skin is less strong. As they are apt to cause congestion and accelerate the action of the heart and the respiration, they often do not agree with the patient, and should therefore be used with caution. Franzensbad, Elster and Cadowa are the most prominent moor baths.

If the chronic inflammatory symptoms are but little developed and the secondary, viz., constipation, indigestion are more prominent, those baths which act less absorbingly but have a greater influence on the restoration of the interrupted functions, are to be preferred to the ones already mentioned. It will be advisable to send such patients to Homburg, Kissingen, Tarasp, or even to Carlsbad or Marienbad.

If with slight local disturbances strong chlorosis is combined, the saline chalybeate waters of Pymont in Franzensbad are indicated, or the plain chalybeate waters of Schwalbach and others, unless they are preferred for an after cure.

For fibromyomata, salt baths containing iodine and bromine are exclusively employed. Leucorrhœa requires different baths according to its causes. If it is a question of simple relaxation of the mucous membrane the alkaline springs of Ems, Neuenahr, Salzbrunn are indicated. In cases of chlorosis chalybeate waters are useful, such as Schwalbach, St. Moritz, Rippoldsan. For gouty or lymphatic constitutions salt or sea baths will be advisable.

It is about the same for amenorrhœa ; according to the cause chalybeate or salt and sea baths will be ordered. Dysmenorrhœa will only be an object for treatment with baths when it is not caused by mechanical obstacles ; here, too, different waters will be useful according to the cause of the disease ; in cases of lymphatic dispositions salt baths, for anæmia chalybeate waters. For highly nervous constitutions the so-called indifferent baths ; Schlangenbad, Teplitz, Wildbad, Gastein are indicated. For some kinds

of sterility a treatment with baths is most efficacious, if the original cause can be influenced by baths. If metritis and endometritis exists, salt baths ; while for adipose conditions Marienbad, Kissingen and others are indicated.

In cases of habitual abortion arising from general weakness, chalybeate waters or sea baths should be ordered ; if syphilis is at the bottom of it, salt baths combined with a specific treatment have proved useful.

It will not be quite easy to choose among all those baths for a special case, as it is not only the composition of the water, but also a great many other factors, the climate, the hygienic conditions, the bathing arrangements, and last not least, the person of the physician into whose care the patient is entrusted, which must be well considered.

REVIEW.

A TEXT-BOOK OF DISEASES OF WOMEN. By CHARLES B. PENROSE, M.D., Ph.D., Professor of Gynæcology in the University of Pennsylvania; Surgeon to the Gynæceum Hospital, Philadelphia. Second edition.

That a second edition of this work should have been called for within a year of its first issue may be deemed not only a justification for its existence, but also in some way a fair guarantee that it has supplied a want; and in these days of undoubted overflow of handbooks on the subject our author must feel complimented by such a result. Dr. Penrose states that there has been no call for any change in the subject-matter in this new edition. As before, then, "all facts of anatomy, physiology and pathology such as may be found in the general text-books," are omitted. It may be perhaps questionable whether the enquiring student may consider this an unmixed good; no rarities of treatment are dealt with, such dogmatic teaching being considered less confusing to the reader, who may search for functional instruction. We would recommend it especially for the post-graduate class, where painful visions of examination fads have ceased to trouble, and practical knowledge for practical work is the sole aim of the learner. The book is clearly and forcibly worded; the illustrations profuse and good in every way; and a useful purpose through many editions yet may safely be anticipated for it.

SUMMARY OF GYNÆCOLOGY, INCLUDING
OBSTETRICS.

VAPOR-CAUTERISATION OF THE UTERUS—DEATH FROM SEPTIC PERITONITIS AFTER SPONTANEOUS SECONDARY PERFORATION.
By VAN DE VELDE, AMSTERDAM. *Centralblatt f. Gyn.*, 1898, No. 52.

A woman of 45, suffering from preclimacteric hæmorrhage, was admitted into Treub's clinic, and having dilated the cervix he applied steam at 105 C. for one minute in the way recommended by Pincus. Next day there was fever; some necrosed particles were washed out of the uterus on the following one, vomiting and prostration then set in, and death ensued four days after the operation. It was found that perforation of the anterior side of the fundus had led to diffuse septic peritonitis.

This woman would very probably have been cured from the hæmorrhage by an innocuous *abrasio mucosæ*, and was killed by vapo-cauterization carried out most carefully in all essential points according to Pincus' principles. The author is right in his warning against the use of such a doubtful remedy, which, apart from the danger of perforation, may lead to obliteration of the cavity and atrophy of the body of the uterus. If the endometrium must be done away with and extirpation of the uterus avoided, Schick's method of hot irrigations of the uterine cavity seems to van de Velde the best. He would, however, perhaps find a use for vapo-cauterization in gynæcology as a substitute for the thermo-cautery in the treatment of carcinoma too far advanced to be operated on.

PINCUS (Danzig), *Ibid.*, 1899, No. 4, defends his method of zestocausis against the conclusions that may be drawn from Treub's case. This case he declares to have been suitable for athmocausis, but not for zestocausis, and he refers to his published articles on this subject, mentioning the dangers of such rigorous proceedings as those adopted by Treub (one minute at 105° C.), and that half a minute is generally sufficient. The misfortune was not due to the method but to the excess, and by strict adherence to his precepts such misfortunes may be avoided.

PUERPERAL FEVER, THE COMPREHENSIVENESS OF THE TERM, AND THE PRACTICAL IMPORTANCE OF THE DEFINITION OF THE DISEASE. By OLSHAUSEN. *Centralblatt f. Gyn.*, 1899, No. 1.

It is by no means decided what morbid processes should be considered as puerperal fever, whether only those due to streptococci and staphylococci, or others also, nor whether it is possible to distinguish clinically infection properly so-called from intoxication. Infections of the genital tract, such as tetanus, scarlatina, diphtheria, and especially gonorrhœa, may cause fever in puerperal women by no means essentially puerperal fever; and Olshausen holds that no disease affecting women in child-bed should be called puerperal fever unless it be due to septic micro-organisms, either as an infection in the strict sense of the term or an intoxication. Medical men (and midwives) are legally compelled to notify puerperal fever, but not, according to Olshausen's view, a gonorrhœal puerperal peritonitis. The decision of the question may be most important in forensic medicine.

BUMM (Basel)—*Ibid.*, No. 6—Finds Olshausen's definition too comprehensive. Intoxication, the result of intra-uterine decomposition from anærobic saprophytes, should be excluded, and only such infectious forms as may generally be referred to streptococci should be described as puerperal fever. When practicable the diagnosis should be confirmed by the bacteriology. Clinically, the foul aspect of greyish-white coating of infected puerperal wounds, especially likely to be seen on the cervix, is decisive.

OLSHAUSEN—*Ibid.*, S. 164—replying, admits that Bumm's view may be defended, but if all cases of simple intoxication are to be excluded, so will be those due to endometritis streptococcica, a disease that undoubtedly may be communicated to other women and in them cause infection. Nor does he think the appearance of cervical ulcers so distinctive as Bumm asserts. The definition of the term "puerperal fever" cannot be settled once and for all; our object must be to distinguish between infection and intoxication, and get better grounds for our differential diagnosis.

MÜLLER'S OPERATION FOR PROLAPSE IN OLD WOMEN.

By WORMSER (Berne). *Ibid.*, S. 12.

Referring to a mistake in a notice of his article in the *Monatschrift f. Geb. u. Gyn.*, bd. vii., S. 371, the author states that he has performed this operation, excision of nearly the whole vagina and closure below of the uterus, in fifteen cases with good results; recovery was never interrupted and there was not a single instance of hydrometra; all the patients were relieved

and remain so. Similar successful results attained by Pflanz and Bröse are a sufficient answer to Martin's theoretical objections to Müller's operation.

TOTAL VAGINAL EXTIRPATION OF A UTERUS RUPTURED IN LABOUR. By JWANOW (Kiew). *Ibid.*, 1899, No. 2.

A III.-para of 23 was delivered of a hydrocephalic child by the cranioclast after perforation. The ruptured uterus was successfully extirpated during the patient's collapse, no anæsthetic being employed, and she recovered. The author warmly advocates vaginal extirpation as proposed by Dührssen in such cases.

VAGINAL CÆLIOTOMY IN TUBAL PREGNANCY, WITH SUPPLEMENTARY REMARKS ON THE INDICATIONS FOR THIS METHOD OF OPERATION IN OTHER ADNEXAL DISEASES.

By BECKER (Hanover). *Ibid.*, S. 36.

Reports two cases of tubal pregnancy successfully treated by vaginal cœliotomy, and discusses the advantages of this method and the indications for it. The author considers it always available and technically possible—under certain conditions. These conditions in tubal pregnancy, whether there be rupture or abortion, he states as follows: (1) Absolutely certain diagnosis. (2) Fœtus not of more than two months' development. (3) Normal width of the pubic arch and sufficient elasticity of the vagina and pelvic floor. (4) Normal extensibility of the ligamenta lata and sacro-uterina, and especially of the ligamenta suspensoria ovarii. (5) Absolute dominion of the technic of the operation. (6) Adequate assistance and light.

BREATHING AFTER CESSATION OF THE HEART'S ACTION.

By AHLFELD (Marburg). *Zeitschrift f. prak. Aertze*, 1898, No. 13.

Reports four cases of new-born children drawing several breaths after the heart's action had completely stopped. In all four the after-coming head had been very forcibly drawn through a contracted pelvis; and Ahlfeld believes the phenomenon due to the pressure on the child's brain rather than to any interruption in the supply of oxygen preceding such pressure, and thinks the condition which arrests the heart's action while the respiratory centre retains its vitality, arises because a severe though temporary pressure on the compressible skull of a new-born child is enough to paralyse the heart-centre altogether.

AUTOMATIC ACTION OF THE HEART OF THE HUMAN FŒTUS.

By OPITZ (Berlin). *Centralblatt f. Gyn.*, 1899, No. 1, S. 6.

The *post-mortem* action of the fœtal heart is by no means so exceptional as reported by Neugebauer (*ibid.*, 1898, S. 1281 *supra*,

v. xiv., p. 608). The author reports two instances observed by himself: (1) Twins in sixth month in which the heart's action persisted at the autopsy two hours after death; (2) in a child born in the ninth month, the heart continued to contract for half an hour after the breathing had ceased. Opitz, nevertheless, contends that these phenomena should not be called *post-mortem*; but that the foetus did not die till some time after their removal from the foetal cavity.

ON THE PERSISTENCE OF AUTOMATIC CONTRACTIONS OF THE HEART OF NEW-BORN INFANTS AFTER DEATH.

By MARCHAND (Marburg). *Ibid.*, 1899, No. 3.

Reports two cases: (1) Boy four days old infected from his mother with anthrax, section one hour after death; (2) a child dying half an hour after birth, section about two hours later; in the left auricle and pulmonary veins were many air bubbles.

ON THE TREATMENT OF ULCERATING INOPERABLE CARCINOMA OF THE CERVIX. By GOTTSCHALK (Berlin). *Ibid.*, S. 79.

After scraping and cauterising the new growth with Paquelin's cautery, Gottschalk makes a circular incision in the vagina, 2-3 cm. below the lower limit of the carcinoma, and turns up and plugs the detached flaps of the vagina into the crater with a tampon of iodoform gauze. The vagina is closed transversely by the union of the wounded surfaces, and in this way the bleeding and putrid discharge is stopped for some months.

PURELY INTRA-PERITONEAL FIXATION OF THE UTERUS BY THE VAGINAL WAY, FOR THE CURE OF RETROFLEXION.

By GOTTSCHALK (Berlin). *Ibid.*, No. 4.

The author has performed the above operation thirteen times for retroflexion, and once to supplement a colpo-perinæorrhaphy for the descent of an anteverted uterus. The results were uniformly good, but pregnancy after the operation has not yet been observed. The method detailed in the original article depends essentially on the following points: transverse incision of the anterior fornix and plica vesico-uterina peritonei; turning the corpus uteri forward till the fundus appears in front; reposition of the uterus after separation of any existing adhesion, after which the vesical fold of the peritoneum is fastened to the anterior wall of the corpus by three stitches, 2-3 cm. long; the vesical and uterine folds are united, and finally the wound in the vaginal vault is closed transversely. Permanent good position and mobility of the uterus was obtained in all cases. The first operation was done in February, 1898. The

author believes this method has advantages over vesico-fixation, the intra-peritoneal vagino-fixation of Dührssen, and the Alexander Adams' operation. The details of the fourteen cases are given in tabular form.

ON OPERATION FOR RETROFLEXION OF THE UTERUS.
By MACKENRODT (Berlin). *Ibid.*, No. 8, S. 220.

The author cannot admit any originality in the method lately described by Gottschalk (*Ibid.*, No. 4). He relates the development in vaginal methods of operating for retroflexion, which he divides into five periods, and shows the most recent method as a return to the oldest procedure of all. The most essential principle is the fixation of the uterus to the vagina, at a height of $1\frac{1}{2}$ -2 cm., as the only way to obtain permanent results without interfering with subsequent labour. After a short description of the technic of the operation as now practised, Mackenrodt claims that this method of fixation affords all that can be expected, and is much to be preferred, especially to Alexander's operation.

NEW OPERATION FOR INVERSION OF THE UTERUS.
By WESTERMARK (Stockholm). *Ibid.*, No. 4, S. 106.

The method adopted in this case is practically the same as that of Borelius, but the author claims priority, as the operation was performed seven months earlier. The article is well illustrated by diagrams.

SPONTANEOUS HEALING OF AN EXTENSIVE LUPUS FACIEI AFTER ABDOMINAL EXTIRPATION OF A SUPPURATING TUBERCULAR TUBO-OVARIAN TUMOUR AND A TUBERCULAR PERIPROCTITIC ABSCESS. By SEELIGMAN (Hamburg). *Ibid.*, S. 110.

The author believes the lupus to have depended on the absorption of tuberculous material (toxines) from the pelvic tumour. The patient was a woman of 40.

LEVER CLAMPS FOR HÆMOSTASIS IN VAGINAL RADICAL OPERATIONS. By L. THUMIN (Berlin). *Ibid.*, No. 5.

A description of instruments constructed by the author for use in vaginal extirpation after Doyen and Landau's method, instead of Doyen's *pince à pression progressive*. A short report is added of thirty-one relevant cases from Landau's clinic. Hæmostasis was complete in all, and there was wonderfully little reaction, especially in the latter cases. From microscopical sections of the compressed portions of the ligaments, Thumin concludes that the instrument crushes the interstitial connective tissue and contained lymphatics only, while the

other elements, muscular cells and elastic fibres, are merely pressed together without suffering in structure.

ON PARTIAL EXTIRPATION OF THE OVARY.

By GERSUNY (Vienna). *Ibid.*, S. 138.

The author quotes many cases in which, when remnants of ovarian tissue have been left behind, pregnancy has afterwards occurred. Part of the ovary should therefore be preserved whenever the nature of the tumour permits it. This may be done in the case of simple and dermoid cysts, but in carcinoma, papillary cystoma, and superficial papilloma, the whole of both ovaries should invariably be removed.

A UNIQUE CASE OF PSEUDO-HERMAPHRODITISM.

By NEUGEBAUER (Warsaw). *Ibid.*, No. 5, S. 139.

The subject, a nurse of 27, was seen seven days after natural labour. In the middle line of the perinæum below the normal vulva there was an organ 45 mm. long, capable of erection to the length of 50 mm., accompanied by a feeling of sexual desire. The organ was imperforate, exhibiting merely a slight dimple in place of a urethral opening. Neugebauer describes the organ as "aut penis rudimentarii aut clitoridis hypertrophicæ implantatio infra vulvam."

ON THE TREATMENT OF THE INCARCERATED GRAVID UTERUS BY THE ELASTIC BAG.

By WESTPHALEN (Flensburg). *Ibid.*, S. 144.

After all other attempts to repose a retroflected gravid uterus in the fifth month had failed, even under anæsthetics, it was successfully treated by employing a colpeurynter.

ON THE TREATMENT OF PELVIC PERITONITIS.

By STRATZ (Haag). *Ibid.*, No. 6, S. 165.

The author has had only 50 per cent. cures of adnexal disease by operation; the other cases continued to suffer for years or had relapses. He has therefore adopted conservative treatment. In acute cases he recommends ichthyol compresses on the abdomen and vaginal irrigation twice a day at a temperature of 40° to 50° C. In chronic cases massage is the chief remedy associated with resorbents.

VESICO-VAGINAL FISTULÆ TREATED BY FREUND'S NEW OPERATION.

In 1895 Freund described a new method of operating upon extensive vesico-vaginal fistulæ; he opened the posterior vaginal vault, turned the uterus over, and after freshening its

posterior surface and the margin of the defect in the anterior vaginal wall, stitched them together. An opening was afterwards made in the fundus uteri for the escape of the menstrual blood.

ROMM (Wilna)—*Ibid.*, No. 7—reports four cases operated on in this way. Success was complete in the first three, but some incontinence persisted in the fourth patient at the time of her discharge. In the first two cases the uterus quickly atrophied and the catamenia ceased. Romm therefore made no opening in the fundus uteri in the others.

KAHN (Wilna)—*Ibid.*, S. 198—reports two more cases of the same operation. The first was completely cured after twice freshening a remaining fistula; the second resulted in gangrene of the fundus uteri, which necessitated a second operation. The patient was discharged with instructions to return in six weeks or so, when the condition of the uterus should have improved and a remaining urethro-vaginal fistula could be dealt with; but she has been lost sight of. Kahn draws attention to the disposition of the vagina to much narrowing after this operation.

A hot-water vaginal irrigator is described by WALZER (Cologne), *Ibid.*, S. 202, which protects the sensitive parts of the vulva and perinæum from scalding, is easy to use and keep clean, and moderate in price.

SCHRADER (Halle), *Ibid.*, No. 8, defends Fehling's four-bladed CRANIOCLAST against the attacks of v. Braun Fernwald.

RECONSTRUCTION OF A DESTROYED FEMALE URETHRA—EMPLOYING GERSUNY'S METHOD TO FORM A SPHINCTER.

By ROMM (Wilna). *Ibid.*, No. 8, S. 227.

Gersuny's method (*Centralblatt f. Chirurgie*, 1889, S. 433) consisted in a circular incision round the orifice of the urethra; the urethra was then freed all round to some considerable depth, and after being twisted longitudinally was stitched into place again so that its canal should make one and a quarter spiral turns.

R. has employed this method successfully in a large vesico-vaginal fistula when but very little of the urethra was left, but as he dare not twist the rotten tissue more than 180° at one time, he had to operate twice. Continence was perfect at the patient's discharge.

ON THE TECHNIC OF EXTIRPATING HÆMATOCELE.

By WERTHEIM (Vienna). *Ibid.*, No. 10.

In the extirpation of large hæmatocele there is great danger of the capsule breaking and of its contents escaping into the peritoneal cavity; moreover, remnants of the sac may be left behind. To avert this Wertheim recommends that the ligamen-

tum latum should be isolated, ligatured and divided before the tumour is shelled out; he was able in this way to extirpate entire five hæmatocele, varying in size from a man's fist to a child's head.

A SIMPLIFIED ASEPTIC METHOD OF SECURING AND TREATING
THE UMBILICAL CORD.

By KUSMIN (St. Petersburg). *Ibid.*, S. 267.

An india-rubber ring 3 mm. thick is placed round the navel; about 5 cm. of the cord outside this is put in a plaster of Paris bandage. This dressing is left *in situ* till the cord drops off and the child can be bathed every day. In forty-two cases so treated there was no unfavourable result.

ON TORSION OF THE UTERUS BY TUMOURS.

By HOLOWKO (Dünaburg). *Ibid.*, S. 270.

The case affected a woman of 30, in whom a myoma had been found as much as three years previously; at the time of operation she was much wasted and in a high fever, and a fluctuating tumour was present in the abdomen. This tumour was found to lie with broad attachment on the fundus uteri and the uterus itself was twisted in its cervical portion fully 360° round its own axis. It was untwisted, and tumour and womb removed. Recovery in fourteen days. The tumour weighed 5,000 g. and was a myoma in myxomatous degeneration with numerous hæmorrhages in its tissue. This is the 40th case now recorded of torsion of the uterus by tumour, which in 21 were myomata and in 19 ovarian tumours.

ON TROPHIC DISTURBANCES AFFECTING THE BLADDER AFTER
GYNÆCOLOGICAL OPERATIONS.

By MIRABEAU (Munich). *Ibid.*, No. 11.

Trophic disturbances affecting the bladder have been frequently observed after gynæcological operations, and have generally been traced to the entrance of wandering silk or wire sutures. Mirabeau reports two cases, in which on cystoscopic examination the vesical circulation was found to be greatly disturbed, and the mucosa affected with atrophy and patchy œdema, conditions which he refers to ligature of the vessels during the operation. For treatment of such cases he recommends massage from the vagina and abdominal surface.

TWO CASES OF CÆSAREAN SECTION BY FRITSCH'S TRANSVERSE
INCISION IN THE FUNDUS.

By CRYZEWICS (Lemberg). *Ibid.*, No. 12.

Both cases were rachitic, the one a primipara; the other, a secundipara, had submitted to the classical Cæsarean section

four years previously. There was atony of the uterus after each operation, but it was easily remedied, and both mothers and children did well. The author considers the fundal better than the anterior incision, because the lochia do not find their way into the peritoneal cavity, but simply flow away into the vagina. Up to the present twenty cases of Fritsch's method have been published, in five of which the uterus was amputated. (For several collected cases see *Annales de Gyn. et d'Obs.*, 1899, Mars.)

ON OPERATIONS FOR FISTULÆ AND INJURIES OF THE URETERS.
By MACKENRODT (Berlin). *Ibid.*, No. 12.

The author considers the transperitoneal operation superior to Witzel's and similar intraperitoneal methods. His opinion is based upon twenty-two cases of fistulæ of the ureter treated by operation, and he refers to the investigations of Fritsch and Kelly on this subject. He now treats all uterine fistulæ of the ureter transperitoneally, and declares that the vaginal operation should not be adopted except for a vaginal fistula of the ureter after extirpation of the uterus. He gives a full description of his own *technique*.

A CASE OF EXTREME SEPSIS AFTER ABORTION CURED BY
SUBCUTANEOUS INJECTION OF A SOLUTION OF COMMON SALT.
By OSTERMAYER (Ofen. Pest). *Ibid.*, No. 12.

The abortion and sepsis were due to the patient's own intra-uterine manipulation with a hard rubber catheter; she thought she had also forced into her womb the thick curved glass end of an irrigator. Ostermayer had curetted and washed out the cavum on November 27, and the patient improved. Jaundice came and disappeared. A tooth was extracted on December 4, for toothache and periostitis. But the pulse remained high, vomiting, diarrhœa, and erythema, with other septic symptoms, supervened, with, on the 14th, almost total suppression of urine and symptoms of collapse. She was given a subcutaneous injection of 300 grms. that day, two similar ones every day till the 20th, one on 21st, and the last on the 22nd, and after the 17th improved so rapidly that on December 31 she was quite recovered.

THE QUESTION OF VAGINAL OR ABDOMINAL EXTIRPATION OF
THE UTERUS FOR RUPTURE DURING LABOUR.
By SOLOWIJ (Lemberg). *Ibid.*, No. 13.

Solowij performed vaginal total extirpation on a secundipara of 34, who was brought to the hospital with a ruptured uterus. She died on the following day, and the autopsy revealed not

only commencing peritonitis, but also a tear in the peritoneum, which was not discovered during the vaginal operation. The case is evidence in favour of the abdominal operation, as giving free access to the whole peritoneum; the vaginal method is of course easier and quicker.

ACUTE TORSION OF THE PEDICLE OF A DERMOID CYST OF THE
RIGHT OVARY AFTER A SIMPLE EXAMINATION FIVE DAYS
AFTER ABORTION.

By UNTERBERGER (Königsberg). *Ibid.*, No. 13.

The patient was a multipara of 35; the pedicle was twisted twice round to the left. The tumour was removed by laparotomy.

PREGNANCY WITH CANCER OF THE PORTIO VAGINALIS.

By JAHREISS (Augsburg). *Ibid.*, No. 13.

A short report of four cases, which terminated, one by induced abortion, one spontaneously, and two by Cæsarean section. Of the two latter, one mother died from septic peritonitis; the other cases recovered for the time being.

A NEW CERVIX DILATOR. By MUELLER (Munich). *Ibid.*, No. 13.

This instrument, on the principle of a glove stretcher, with a pelvic curve, diverted ends, and a lock to allow each blade to be introduced separately, is designed chiefly for the gravid uterus, to clear out the remains of abortion, or to induce premature labour.

ON PLASTIC UTILISATION OF THE UTERUS IN PROLAPSE.

By WERTHEIM (Vienna). *Ibid.*, No. 14.

Acting on Freund's idea of turning the uterus out of the abdomen into the vagina, and employing it to close a vesico-vaginal fistula, Wertheim has successfully carried out the same process in two cases of severe prolapse with cystocele. After opening the anterior vaginal vault transversely and dividing the plica vesico-uterina, he turned the uterus over into the vagina and stitched up each side of the wound to the collum. Having then freshened an oval surface on the anterior vaginal wall, and made a similar wound on the posterior wall of the uterus, he stitched these wounds together. Both cases did well, the exposed anterior surface of the uterus at first exhibited a granulating appearance, but this gradually diminished. The patients were discharged with the most extreme anteversion of the uterus and the vaginal portion high up in the posterior fornix. *Intra-vaginal fixation*, as Wertheim calls this operation, is of course only suitable for cases in which conception is excluded.

THE RELATION OF THE THYROID GLAND TO PREGNANCY.
By LÄNGE (Konigsberg). *Zeitschrift f. Geb. u. Gyn.*, xl., 1, S. 34.

An essay based upon five years' investigation embracing 300 cases of pregnancy and childbed, and experiments upon animals. Hyperplasia of the thyroid, the goitre of pregnancy, is a physiological phenomenon, and the author concludes that as the enlargement may be reduced by the administration of thyroid preparations, it is not due to simple hyperæmia, but there is an increase of glandular tissue. He met with the hyperplasia in two cases of chronic nephritis, but never in the nephritis of pregnancy.

His experiments on animals were directed to ascertaining whether reduction in the size of the thyroid led to any changes in the kidney, and whether, in this respect, the results were the same in the gravid and non-gravid condition. Cats were the animals employed, and he found that a larger mass of thyroid was required to maintain health in the gravid animals than in those which were not so. In the former the extirpation of more than four-fifths of the gland was followed by tetanus, which disappeared on the administration of iodothylin. Pregnant cats with a remnant of the gland sufficient for health in such as were not pregnant, acquired an insidious affection of the kidneys sometimes associated with spasms not amounting to tetanus, and not influenced by iodothylin. In the pregnant kidney of women iodothylin had an unmistakeable influence, increasing diuresis and diminishing albuminuria.

STONE-FORMATION IN THE OVARY.
By RIES (Chicago). *Ibid.*, S. 73.

A report of three cases, one of pyosalpinx and two of hydrosalpinx, which fell under the author's observation in one year. Under the microscope the calcified portions showed no structure; chemically, they consisted of fibrous matter, fat and cholesterin, with carbonate and phosphate of lime and magnesia. Ries has found only four similar cases recorded; he refers the formation of the stones to retrogressive metamorphosis in the corpora lutea in which they originate, comparing them with cysts of the same bodies, but admits their origin from such cysts as possible.

PUERPERAL INFECTION. *Ibid.*, S. 85.

Koblank concludes an article on puerperal infection. Like many others he has found streptococci in the normal secretion of the vagina of pregnant women, but the inoculation of mice and rabbits with such cocci was generally without result. The negative result may possibly have been due to immunity rather

than to any peculiarity of the streptococci. He concludes from his investigations that bacteriological results cannot be utilised for clinical treatment without the greatest caution.

ON THE PATHOLOGY AND TREATMENT OF UTERINE GONORRHOEA.
By SCHULTZ (Ofen Pest). *Ibid.*, S. 93.

S. concludes, after the investigation of 200 cases in St. Rochusspital, that gonorrhœa is infectious only until the gonococci have disappeared from the secretion, whether the latter be vitreous or purulent. When the cervical secretion contains no gonococci there are none in the uterine secretion. The secretion was purulent in 50·60 per cent. of the cases only, in the rest it was vitreous or merely turbid. Bröse's opinion that the uterus is infected in every case of gonorrhœa in women was not found correct, even when the cervix was affected the uterus was so in only 38 per cent. The adnexa suffered in 38 per cent. of those with cervical gonorrhœa only, in 45 per cent. when the uterus was infected also.

Schultz has tried many forms of treatment, including ice-bags to the abdomen, Heitzman's vaginal refrigerator, intra-uterine injections of 4 per cent. protargol, of wood vinegar, of 5-10 per cent. nitrate of silver, and of 10 per cent. argentamin. The last has given the best results; it must, unless inflammatory symptoms contraindicate the injection, be used twice a week till the gonococcus disappears.

THE HISTOLOGY OF THE HYDATID MOLE.

By SPULER (Berlin). *Ibid.*, S. 129.

From the examination of two cases the author concludes that in this affection syncytial formation may originate from the ectoderm. This does not much help the question of the origin of the syncytium when the placentation is normal.

SYNCYTIAL ABERRANT CELLS AND SYNCYTIOMA MALIGNUM.
By BLUMREICH (Berlin). *Ibid.*, S. 138.

The author points out the difficulties in deciding on the innocence or malignity of new growths from the microscopic examination of curetted *débris*. He gives an exact description of the microscopic appearances of such masses curetted from a 26-year-old multipara on account of hæmorrhage after abortion. He compares his results with those recorded of malignant syncytioma, and innocent growths of syncytial masses or giant cells, and of Langhans' cells in the serotina. The conditions met with agreed equally well with malignant and innocent growths. In his own patient the decision as to a radical operation was on this account postponed, and she has continued quite

healthy. The case shows that even in malignant processes microscopic examination is not sufficient.

ON PERFORATION AND CRANIOCLASM WITH THE THREE-BLADED CRANIOCLAST.

By WALTHARD (Bern). *Monats. f. Geb. u. Gyn.*, Bd. ix., H. 1.

The author shows by statistics that in Switzerland the number of cases of perforation has not diminished in late years. From 1892 to 1896 in 441,539 labours 15,975 children were born dead, 248 after perforation, 15 after decapitation and embryotomy. Only 80 of the craniotomies were done in hospital. An exhaustive discussion of the various methods of cranioclasm leads him to recommend the three-bladed instrument as combining the advantages of both cranioclast and cephalotribe, and he concludes by describing a three-bladed instrument, devised by himself, which he has found efficient in eleven cases. The essential characteristic about this instrument is that the conical perforator at the extremity of the middle blade is screwed into the base of the skull after the brain has been evacuated, and assists the outer blades in breaking up the crown and base of the skull with less risk of injury to the mother.

CYSTIC ADENOFIBROMA OF THE INGUINAL REGION.

By ASCHOFF (Göttingen). *Ibid.*, S. 25.

From microscopic examination the author refers the origin of this tumour to fragments (reste) of kidney, and in connection with it, describes two preparations of adenomyoma of the uterus; he entirely agrees with Recklinghausen in considering these growths as tumours of the Wolffian bodies.

HUMAN PLACENTATION.

H. PETERS (Vienna). *Ibid.*, S. 41. According to the author the ovum embeds itself in the decidua.

C. RUGE (Berlin), *Ibid.*, S. 59, who endorsed this view when first propounded, warmly supports Peters' work as most important.

ON MALIGNANT HYDATID MOLE.

By M. VOIGT (Hamburg). *Ibid.*, S. 63.

The clearing away of an hydatid mole in a woman who had borne eight children, the last three years previously, was followed by severe and irregular bleeding. After exploratory curettage the uterus was plugged with iodoform gauze to further dilate the cervix, in order to supplement the exploration by thorough curettage and palpation. Microscopic examination disclosed suspicious spots in the curetted fragments, and palpation was

followed by septic fever; the uterus was therefore extirpated, and with good result. A full description, with two illustrations, is given of the microscopical conditions of the uterus, that justifies Voigt's conclusion that malignant new growth had commenced.

THE TREATMENT OF CARCINOMA OF THE NECK OF THE UTERUS
IN ADVANCED STAGES OF PREGNANCY.

By J. MERTENS (Düsseldorf). *Ibid.*, S. 84.

In a multipara, with slightly advanced carcinoma of the posterior lip of the os uteri, Mertens brought on premature labour; delivery took place without trouble, and eight days later the uterus was extirpated by the vagina without any great difficulty. M. recommends this method of procedure when the child is viable, and no difficulty is to be expected in the birth, otherwise Dührssen's method is to be preferred unless it presents insuperable difficulties, when abdominal Cæsarean section is the alternative. In the earlier stages of pregnancy immediate extirpation of the uterus by the vagina is indicated. If necessary, the volume of the uterus may be lessened by drawing off the liquor amnii (Olshausen), or it may be emptied after deep incisions in the cervix (Dührssen-Hegar).

A CONSERVATIVE METHOD OF TREATING OLD CASES OF
PUERPERAL INVERSION OF THE UTERUS.

By EVERKE (Bochum). *Ibid.*, S. 89.

An inversion that had persisted for thirteen years was treated successfully in the following way:—After laparotomy the constricting funnel of the inversion was incised superficially in front and deeply behind, and re-inversion was easily effected. Both wounds, the posterior of which opened into the vaginal vault, were carefully stitched up, and the uterus secured by ventrofixation.

TUMOURS OF THE ROUND LIGAMENTS. By WEBER. *Soc. d'Obstet. et de Gyn. de St. Petersburg*, November 24, 1898.

Weber reported the following cases: (1) a woman, aged 58, was admitted to hospital for a tumour in her left groin and left labium majus, which had been increasing in size during the last year. A process from its upper extremity led towards the inguinal canal. The tumour was taken for an irreducible hernia, but was found on operation to be a new growth, and was enucleated without difficulty. The only adherence was at its upper part by some fibres of connective tissue, the division of which caused slight hæmorrhage. In the centre of the tumour, which had developed on the outer part of the round ligament, were a

number of small cavities filled with a transparent fluid. Microscopic examination showed it to be a lymphangiectoid fibroma.

(2) A young girl came to the hospital with a pedicled tumour of the abdominal wall, composed of two parts, the larger with a knobby surface, the smaller quite smooth. Below it the fingers could be depressed into the abdominal cavity through an aperture formed by the separation of the aponeuroses of the abdominal muscles. At the operation it was necessary to open the peritoneum freely, and a thick cord, the thickened round ligament, was found passing from the tumour into the small pelvis. The tumour had originally developed in the inguinal canal, which it had gradually destroyed in forcing its way out. Its connection with the round ligament was easily demonstrated in the recent preparation; the smaller portion was a myoma, the larger a myosarcoma.

(3) In this case the tumour was accidentally discovered at an operation for inguinal hernia. The round ligament crossed the internal wall of the hernial sac as a thick cord which gradually changed at 10 cm. from the neck into a solid almond-shaped flattened tumour lying in the thickness of the sac. Under the microscope it proved to be a fibromyoma.

DERMOID CYSTS OF THE ABDOMINAL CAVITY.

By TIPIAKOFF. *Med. Obozrenié*, November, 1898.

At the Rostov Municipal Hospital the author met with only six cases of dermoid cysts in six years. Their mobility, far from being characteristically extreme, was insignificant, they presented no pathognomonic symptom, but the local pain and subjective feelings were more severe than in cysts of other kinds.

(1) A woman of 23, whose abdomen was so enormous that she could not stand without difficulty, had noticed the enlargement at least four years. On laparotomy the uterus was found diverted to the left hypochondrium by a tumour of the right ovary, which, when extirpated, was found to be multilocular and to contain hair, fat, numerous teeth, interarticulated clavicles, a well-formed shoulder-blade, and one incompletely developed hand. The tumour weighed thirty-two pounds. The patient recovered perfectly.

(2) and (3) Unilocular cysts in women of 23 and 24.

(4) A cyst as large as a child's head attached to the right broad ligament, adherent to neighbouring organs, in a girl of 15. Contained hair and fat. Recovery.

(5) Multipara of 33. A tumour as large as a child's head, partially enclosed in the right broad ligament, contained hair (about a metre long), and part of a jaw-bone with well-developed teeth.

(6) Woman of 28. A movable tumour of the right ovary of the size of a closed fist, containing hair and fat.

LUKSCH (Graz). *Wiener. k. Wchnschrft.*, 1899, No. 10.

In the abdomen of a seamstress of 39, a round tumour with a smooth surface and indistinct fluctuation could be felt extending out of the small pelvis up to the navel. There was also a purulent vaginal discharge and stenosis of the rectum. The stenosis was found on operation to be due to cicatricial masses; two small cysts lay below the point of the coccyx. The tumour, which consisted of a large cyst containing about a litre of pea-soupy fluid, was extirpated, and the patient recovered. The purulent infection of the contents of the cyst had taken place from the rectum.

DERMOID CYSTS OF THE BROAD LIGAMENTS.

By BERTHOLET. *Thesis, Lyons*, 1898.

Dermoid cysts of the broad ligaments are such cysts with cutaneous walls as, originally developed in the broad ligaments, are completely independent of the ovaries. These cysts are a pathological variety, and only nine have as yet been published. The age of the persons affected with them is not stated in two cases, but in the other seven it averaged 40 years; six were married, five had borne children, and one was sterile. As regards the complexity of their contents (sebaceous matter, hair, bone, &c.), the pathological anatomy of these cysts resembles those of the ovaries, with which they may be considered as a distinct category among dermoid productions. Their syndromata depend on their situation within the broad ligaments and their dermoid nature, and consist principally in the acuteness of the pains, the slowness of their evolution, and the special sensations on palpation. Their diagnosis is seldom possible, and was indeed only made in one instance. The only treatment is extirpation of the tumour by the vagina, or by laparotomy. Eight cases were so treated, seven by the abdominal, one by vaginal operation; one only was fatal, in 1879, before antiseptic principles prevailed, so that the results of operation seem as good as in the case of simple cysts of the ovary and broad ligament. Professor Poncet prefers the abdominal operation, which when the pelvis is elevated permits the liberation of the cyst from the enclosing and often adherent ligament to be more easily effected in full view of the operator. Should complete extirpation prove impossible it would be necessary to marsupialise the pouch, a proceeding to be avoided if possible, but the eventual necessity of which justifies the choice of the abdominal operation, the more so as one may afterwards, when the remains of the sac have spontaneously become more or less free, proceed to complete extirpation.

DERMOIDS OF THE PELVIC CONNECTIVE TISSUE.

By QUERVAIN. *Archiv f. Klin. Chirurgie*, Bd. lvii., H. 1.

A retrorectal cyst in a man, which had caused severe vesical trouble for years, was drawn up and sutured in the abdominal wound, drained, and later on removed.

Fifteen similar cases have been reported, all in women. They may be divided into those below the levator ani, between the rectum and the coccyx, and those above that muscle, situated in the retrorectal connective tissue, in the subserous tissue between Douglas's pouch and the levator ani, or in the broad ligaments. The symptoms are due to pressure on adjacent organs and vessels. Dermoids in front of the rectum may simulate tumours of the *cul-de-sac*, those behind it cold abscesses or serous or hydatid cysts. Exploratory puncture, though not free from danger, may be necessary for diagnosis, but when that is established it is better to operate as soon as possible. The method of operation depends on the situation of the dermoid; perinæotomy is indicated if the tumour extends downwards, the parasacral incision if it be high up, and either of these methods may if necessary be combined with the extra-peritoneal abdominal. If discovered during labour, the tumour may be incised and drained, but should be extirpated as soon as possible after delivery.—*Amer. Jour. Med. Sci.*, April, 1899.

LIGAMENTARY COLPOPEXY. By Dr. JACOBS. *Belgian Gynaecological and Obstetric Society*, Jan. 21, 1899.

To illustrate the later results of ligamentary colpexy, the operation he recommends for otherwise intractable total external prolapse, Dr. Jacobs exhibited a woman, aged 59, on whom three years previously he performed this operation by the abdominal way, *i.e.*, total abdominal hysterectomy with partial excision of the vaginal walls and suture of the closed vaginal vault to the upper part of the broad ligaments. The patient presented a considerable hernia of the posterior vaginal wall, but a suitable plastic operation upon the perinæum and posterior vaginal wall would have given a perfect result, as the vaginal vault was well elevated and there was no trace of prolapse of the anterior vaginal wall. The woman is able to work five days a week as an ironer without suffering any of her former misery.

In the last three years Dr. Jacobs has done 24 of these operations—all successful—but he reserves it for cases of old external prolapse in women past, or at all events approaching, their menopause, *i.e.*, over forty years of age.

Dr. Jacobs also exhibited a case operated on in June, 1898, by vaginal hysterectomy with ablation of the adnexa and

fixation of the vagina to the parametrium, a modification of Freund's operation, supplemented by the series of plastic operations recommended by Sänger. The result, though good, was not as brilliant as that in the preceding case, for some anterior vaginal prolapse already existed, in spite of the enormous size of the perinæum. The woman was 66 years old, and had suffered from external genital prolapse for thirty years, but in her case, as in the other, a radical operation was adopted on account of the state of the neck of the uterus. The specimen—adenoma causing enormous enlargement extending to the supra-vaginal portion with hæmato-salpinx—was exhibited.

THE RADICAL CURE OF UTERINE CANCER BY THE ABDOMINAL WAY. By Dr. JACOBS. *Ibid.*

In cancer of the collum uteri the glands always are affected. In 33 cases I only met with one in which the glands appeared to be sound, and that case was followed by recurrence within three months. Vaginal hysterectomy, like Schroeder's amputation of the neck, in this disease is merely palliative, and only by an abdominal operation can all affected and suspected tissue be removed.

My early cases were unfortunate in so far that during the operation I had to renounce the evacuation of the broad ligaments, as although the cases chosen were quite operable by the vaginal method, the lymphatics were so much affected that I could not clear out the disease from the pelvis without the risk of seeing the patients die on the table. From these cases, however, I learned that the radical cure of cancer of the neck is impossible save at the commencement, and that even when the uterus is quite movable and bimanual palpation cannot detect any cellular or vascular infection in the broad ligaments, laparotomy may disclose chains of infected glands extending as high as the superior strait. After abdominal intervention when the vaginal walls have been freely resected, the vagina, as a rule, remains healthy and recurrence is generally in the pelvis, the glands enlarging and becoming adherent to the intestines and thus causing cancer of those viscera.

I do not think the abdominal operation more dangerous than the vaginal. It is more painful and laborious to spend half an hour or more in searching out the pelvic glands than to complete a vaginal hysterectomy in a few minutes, but the gravity of the operation is no greater. Three groups of glands have to be found: (1) *the external iliac*, outside the common iliac artery; (2) *the hypogastric*, in the triangle between the external iliac and hypogastric arteries and the pubis, and (3) *the sacral*, on the anterior face of the bone. Finding the glands is a

question of practice, and is no harder than finding the artery in ligaturing the external iliac.

The early cases I have mentioned, though not by any means so advanced as many I hear of being operated on, I could not now conscientiously interfere with. The first condition for operation is that the disease should be localised in one or both lips of the collum without involving either fornix, the uterus should retain its mobility and the bases of the broad ligaments should be unaffected. Mere engorgement of the pelvic glands is not disclosed by examination, and even under chloroform, the finger cannot determine whether the lymphatics are infected or not; infiltration and thickening of the parametric cellular tissue immediately round the neck, often taken for such infection, is in itself an absolute indication not to operate. The earlier the removal the more chance there is of escaping recurrence, but even in early operations the glands should be removed. In the normal state they are difficult to find, even after laparotomy, but no sooner does cancer affect the collum uteri than the pelvic glands begin to enlarge. When the disease is advanced it is impossible to clear out the lymphatics satisfactorily, I therefore abstain from abdominal intervention. The American practice seems to be to adopt the abdominal way when the vaginal is no longer possible.

Among my first 8 cases of abdominal hysterectomy I had 1 death and 7 recurrences within six months. In the 15 others in which the operation was satisfactorily carried out, there has as yet been no recurrence, though it is too soon to speak of cure. Abdominal laparotomy will no doubt soon be adopted for the removal of cancerous organs other than the uterus. It would be the rational method for cancer of the rectum.

ON OPERATIONS IN ADVANCED UTERINE CARCINOMA.

By VEIT (Leyden). *Berlin Klin. Wchnschrft.*, 1899, No. 15.

Early diagnosis is the most important factor for improving the results of operations for uterine carcinoma. The appearance of hæmorrhage when the portio is touched is typical of carcinoma of the portio; the recurrence of bleeding after the climacteric is established, of cancer of the corpus. Nodes of disease in the collum and cancer of the cervical mucosa are frequently not recognised till late, as definite symptoms may not appear till the outbreak into the vagina, and the microscopic examination of excised pieces in such cases is most important. As regards the danger that transplantation of cancer germs may take place during the operation, Veit believes that all metastases are to be referred to extension through the lymphatic channels which exist even in the cicatrices of incisions; that carcinoma remains

a local extirpable disease much longer than has been supposed, and that it is sometimes possible, even in advanced carcinoma, to remove all the disease. Women so affected often survive very serious measures, and all his experience convinces him that Freund's operation, the improved abdominal extirpation, is the only reasonable one. The chief danger from the operation itself and from the narcosis, threatens the heart, and in some cases, especially in abnormally fat women, he would not willingly undertake the operation.

THE PREVENTION OF UTERINE CANCER.

By DÜHRSSSEN. *Deutsche med. Wchnschrft.*, 1899, No. 4.

Roger Williams has shown that uterine cancer is not, as was believed, more frequent in the lower classes, but that predisposition to this disease is given by the over-feeding and comfortable existence of those in better circumstances. The mortality from uterine carcinoma is from 0·8 to 1·0 per mille, and in the German empire is three times as high as that from puerperal fever. The only way to lower this mortality is that of operating, and operating early, by eliminating the diseased uterine mucosa either by Sneguireff's vaporization, by Dührssen's method (intra- or extra-peritoneal T-shaped division of the anterior wall of the uterus after anterior vaginal cœliotomy and excision of the entire uterine mucosa), or finally by prophylactic destruction of the mucosa by Dumontpallier's chloride of zinc stem pessary as recommended by Sänger. The first-named procedure is to be preferred. An indispensable step is the extension among women of a knowledge of the nature of the disease by the dissemination of popular writings.

ON THE EARLY DIAGNOSIS OF PREGNANCY.

By R. v. BRAUN FERNWALD. *Wiener k. Wchnschrft*, 1899, No. 10.

The author concludes, from investigation of the plentiful material at his disposal, that the most important early symptoms of pregnancy are, as already pointed out by many authors and especially by Hegar, changes in the consistence of the uterus and also especially the shape the uterus presents or takes on upon examination. The gravid uterus seems thicker on one side than on the other, and generally exhibits a longitudinal furrow on its anterior wall. This condition could be brought out in every one of the author's cases upon vaginal examination, and is, he thinks, to be explained by the nidation of the ovum in one of the lateral walls of the uterus. The earliest epoch at which a diagnosis could be made on the basis of this sign was three days after the return of the menstrual period; the absence of this palpation sign seems important in extra-uterine pregnancy. The article contains a comprehensive collection of the literature of the subject.

TERRIER. *Thèse de Paris*, 1897-8, No. 642.

Toothache, generally towards the end of the first month, may be considered one of the signs of probable pregnancy in a multipara. Many women become subjects of caries during pregnancy, and when previously existing, caries advance more rapidly during gestation. Gingivitis is common. Terrier attributes these facts to an increased acidity of the saliva.

LEUCOCYTOSIS IN PREGNANCY.

HIBBARD AND WHITE (*Journal of Experimental Science*, Nov., 1898), from experiments on fifty-five parturient and puerperal women, have come to the following conclusions, which do not altogether agree with those of Rieder and Björkman. In more than three-fourths of all labour cases leucocytosis was more rapid and stronger in primiparæ. It declines at first quickly, afterwards more gradually during childbed, but a slightly increased activity is generally seen on the seventh day, and leucocytosis is most active in young people and in the most advanced stages of labour, apart from the number of previous labours; mastitis is always associated with increased leucocytosis. It depends on increase in the number of polynuclear cells.

THE INDUCTION OF PREMATURE LABOUR.

By HUCKLENBROICH. *Münchener m. Wochenschrift*, 1898, No. 50.

In twenty-nine women Hucklenbroich has induced premature labour sixty times by Krause's method (introduction of a solid bougie), supplemented in three instances by perforation of the membranes with a goose quill. Twenty-six women had contracted pelvis, in the other three the indications were persistent vomiting (carcinoma ventriculi, eclampsia and extreme dyspnœa). One woman died from sepsis. Of the children, forty-nine were born alive, and twenty-seven of these discharged healthy after ten days.

WIENSKOWITZ (Löbau), *Semaine Medicale*, No. 18, 1898, in a case of contracted pelvis, employed the following modification of Pelzer's method of inducing labour in the thirty-fourth week of the pregnancy. A strip of iodoform gauze, 75 by 1 cms., soaked in sterilised glycerine so as to absorb about 15 cc., was introduced into the cervix, and kept there by a small compress of iodoform gauze applied to the os. Contractions commenced in three hours, dilatation was complete in ten, when the membranes being intact he delivered a live child of two kilogrammes by podalic version. Normal childbed.

A FLOATING KIDNEY, GALL-STONES, AND TUBAL PREGNANCY IN THE SAME PATIENT. *Med. Age*, 1899, No. 197.

Ferguson (*Chicago Medical Recorder*, December, 1898) reports a unique case in which all of the above conditions occurred in

the same person. The floating kidney was anchored, and the gall-bladder, which contained 114 gall-stones, was opened and drained. The patient made a good recovery, and left the hospital in three weeks. Two days later, however, she had an attack of bilious colic, which symptom was repeated thrice at intervals. During the third and fourth attacks pain was also complained of in the region of the right ovary. Examination revealed tenderness in the region of the cystic duct, and a diagnosis of stone between the cystic and common ducts was made. *Per vaginam* a large, soft, boggy mass was felt, and pronounced extra-uterine fœtation. The patient had menstruated just before leaving the hospital the first time, and later there was milk in the breasts. At the second operation a gall-stone was found as diagnosed, and this was pushed into the gall-bladder, which was incised at the site of the old wound, and removed. The pelvis was filled with blood, and the tube, containing a three and one half-inch embryo, was removed, together with the placenta. The patient recovered.

TWO CASES OF SOON-INTERRUPTED TUBAL PREGNANCY, WITH REMARKS ON TREATMENT.

By ORTHMANN (Berlin). *Deutsche Med. Wchns.*, 1899, Jan 12.

These cases occurred recently in Martin's private clinic. In neither of them had the menses been absent, and in one the discharge appeared normal in amount and duration. Three and a-half weeks before the rupture of the tube, the woman was attacked with all the symptoms of severe internal hæmorrhage. Her condition was at once diagnosed and laparotomy performed as soon as she could be conveyed into the clinic. The seat of the hæmorrhage was in the isthmus of the tube, which was found enlarged to the size of a hazel nut and perforated. Directly behind this swelling the tube was adherent to the ovary and was consequently bent on itself. There was a corpus luteum cyst and a recent corpus luteum in the ovary. During the four weeks of uninterrupted recovery there was nothing to indicate the discharge of any decidua from the uterus.

In the other case the tubal pregnancy was discovered accidentally during anterior colpotomy. The diagnosis made after a careful investigation had been hæmorrhagic endometritis with double oöphoritis. The anamnesis afforded no characteristic suggestion of tubal pregnancy. The curette was used in the first instance, but brought away very little mucosa. When the left adnexæ were exposed after opening the plica vesico-uterina, a loose blood-clot was seen hanging out of the fimbriated end of the left tube, the dilated tube being filled with old blood. From near the isthmus of the tube when it was drawn out, a firm clot, about 2 cm. long and 0.5 cm. broad, was discharged

with some others, and was recognised as resembling the product of a tubal pregnancy, as it was afterwards found to be on microscopical examination. After a ruptured follicular hæmatoma had been resected from the ovary of the other side, the adnexæ, as they showed no other change and there was no more bleeding from the left tube, were replaced. Uninterrupted recovery.

No decidual cells were found in the curetted mucosa of the uterus, which was affected with a slight degree of endometritis glandularis. That no hæmatocele had formed in this case was probably due to the fact that the bleeding, though it must have gone on for some time, was not greater in amount than the peritoneum could absorb. The two cases are characteristic of the wide difference between tubal rupture and tubal abortion. The sudden attack with signs of acute anæmia and peritoneal irritation, which brought the first woman well-nigh moribund on to the operation table, contrasted with the almost complete absence of symptoms in the second case. (The specimens were shown at the Berlin Obstetrical and Gynæcological Society on November 11, 1898.)

CONTEMPORANEOUS UTERINE AND EXTRA-UTERINE PREGNANCY. By KIRIAC.

Kiriac reported a case, at the French Congress of Gynæcology and Obstetrics, terminating in abortion from the uterus and extraction of a foetus from the posterior *cul de sac*. The patient recovered after the placenta and uterus had been removed on account of pyrexia by a secondary laparotomy.

IS ECLAMPSIA A MICROBIC DISEASE? By P. BAR. *L'Obstétrique*, November, 1898.

Bar has investigated the urine, blood, the various viscera of the mother, the placenta, and the foetal viscera, bacteriologically, to make out the nature of the germ, if any, and to demonstrate its pathogenic power. From these researches he finds that the urine of eclamptic women is often fertile, that the bacteria found are also met with in the urine of non-eclamptic women, and that the inaction of such urine on animals demonstrates that its pathogenic power is *nil*. Streptococci and pneumococci have been found in the blood, but under such conditions that no inference could be drawn; this applies also to the viscera.

The micro-organisms found were mostly virulent staphylococcus, proteus vulgaris, coli bacillus, pneumococcus, but he has not been more successful than other workers in isolating any special and constant micro-organism which can set up eclampsia, and therefore concludes, in the second part of his

work, that if eclampsia is due to a specific micro-organism, that micro-organism is not one of those so far described.

He believes it possible that in pregnant women infection with staphylococci and the coli bacillus may cause the lesions of the liver and kidneys which seem necessary to determine the attacks. Bar points out that the coincidence of the two is fairly frequent, and their relationship is not known yet. In an eclamptic woman, who died with jaundice fifty hours after delivery, he found in the peritoneal fluid a pure culture of bacillus coli with marked hepatic changes. From this he argues that if a series of cases prove the existence of a congenital infection in any children born of eclamptic mothers, the theoretical conception, which attributes, at least in some cases, the hepatic lesion in eclamptic women to an analogous infection, will receive a great support.

FRED EDGE.

THE PATHOGENESIS AND TREATMENT OF PUERPERAL ECLAMPSIA.

By G. G. STUART. *Australian Med. Gaz.*, Dec. 20, 1898.

It is more than a century since Sauvages ascribed eclampsia to lesions of the nervous centres, and in 1843 Lever asserted that the disease was invariably associated with albuminuria during pregnancy. One or other of these theories has held the field till recently, and each is supported by clinical and *post-mortem* evidence. Cases published by Brummerstadt in 1866, and more recently by Charpentier, Schauta, and Pavpertof, have demonstrated that albuminuria is non-essential, and pathological anatomists, Prutz in particular, have proved that there is no correspondence between the lesions of the kidney and the clinical symptoms of eclampsia, and that these lesions may be profound in very slight cases, and insignificant or entirely absent in the most severe ones.

The origin of eclampsia from a *special microbe* is a theory which better than any other would explain the epidemic appearance of the disease, but though it has been investigated by many observers, is far from being proved.

The theory of *auto-intoxication*, closely allied to that of uræmia, accuses all the organs of elimination, and especially the liver and kidneys, ascribing the eclamptic condition to the continual manufacture of toxins in the system—a normal process increased during pregnancy—and to the deficient elimination of these toxins. As shown by Bouchard, in eclampsia the urine though scanty is less, and the blood serum more toxic than normal, and during the convulsive period Ludwig and Savor found that the toxicity of the urine is invariably less than that of non-eclamptic puerperal women, while the toxicity of the blood serum is fifty times as great. They declare that during

pregnancy the blood serum is hypertoxic, and that when the toxicity reaches its limit eclampsia results. But this theory explains neither what poisons determine this intoxication, nor what are their special results, nor shows that it is an auto-rather than a hetero-intoxication; moreover, many women are never so well as when pregnant.

To Pilliet, in the first place, we owe the discovery that the liver is the seat of characteristic changes proper to this disease alone. He describes three degrees: in the first there is a special dilatation of the intralobular capillaries in the neighbourhood of the portal vein; in the second and more frequent degree, the follicles are enlarged with a periphery of dilated vessels and a centre of degenerated elements; in the third, infarction and necrosis extend to kill the parenchymatous tissue, and coalesce to form large sequestra, while emboli, of hepatic origin, are found in other organs.

It is the importance of the liver in eliminating poisons and in transforming albuminoids into urea, coupled with the notable diminution of the urea in eclampsia, which has led to the various theories of auto-intoxication, but auto-intoxication cannot be at once the cause and effect of the organic lesions.

Schmorl, of Leipsic, believes eclampsia to be due to the presence in the maternal blood of a coagulating substance of placental origin. In seventeen *post mortems*, in addition to extensive lesions of the liver, he detected in pulmonary thrombi giant cells which he believed to be of placental origin, as he found them also free among the placental villi and in the veins of the uterine wall. The lesions in the brain, kidneys and other organs were everywhere due to a process of thrombosis, hæmorrhage and necrosis. Volhard, moreover, proved that the urine after an eclamptic convulsion caused thrombosis in rabbits, and Kollman that the blood of eclamptics is abnormally rich in globulins, *i.e.*, fibrino-plastic matter.

Finally, there is the view that eclampsia is a toxæmia, in the production of which the fœtus is concerned. The fœtal lesions are identical with the maternal, and the mother's condition is often improved by the death of the fœtus. It is not the mechanical presence of the fœtus in utero which is the cause, for eclampsia begins in some cases after its expulsion. Given renal and hepatic insufficiency, &c., comparatively slight causes may cause the convulsions. The etiology of eclampsia is still obscure, but the morbid conditions are clear and give the best indications for treatment.

The most recent statistics of albuminuria in pregnancy (Charles, 1898) show that of 4 albuminurics only 1 develops eclampsia, but of 110 albuminuric pregnant women without eclampsia, 8 died, 20 of their children also died; there were 61

premature labours, 8 *post-partum* hæmorrhages, and 3 cases of threatened convulsions. The detection of albuminuria in pregnant women is therefore essential, and the following principles should underlie the treatment:—(1) Complete rest to control tissue waste and the consequent production of urea; (2) saline injections and large draughts of water to dilute the hypertoxic blood serum, bleeding and purgation to withdraw it; (3) control of the phenomena due to the affection of the central nervous system; (4) the induction of labour.

REMARKS ON THE SUTURE AND DIRECTION OF THE INCISION
(POSTERIOR SAGITTAL) IN CÆSAREAN SECTION.

By SIPPEL (Frankfurt a. M.) *Archiv. f. Gyn.*, B. lvii., S. 536.

The good results of silk stitches in Cæsarean section appeared to dispose of Sippel's theoretical objection (published some twelve years ago), that the escape of the lochia was facilitated more by the capillary action of silk than by the needle-hole. A case he now reports justifies his objection, and shows that in spite of suitable selection of the case, and most careful performance of the operation, the lochial secretion is not always sterile, and that there is therefore some danger in silk sutures of capillary action from the cavity of the uterus to the peritoneum. He prefers, as in intestinal suture, to close the cavity of the uterus separately by an abandoned stitch, and finds this best done by continuous suture with non-capillary catgut. As in order to do this exactly the incision must not involve the placenta, Sippel recommends that in every case of conservative Cæsarean section the seat of the placenta should be determined on the eventrated uterus from the insertion of the round ligament and tube by Leopold and Palm's method, and that if the placenta lies on the anterior wall, the uterus should be opened sagittally behind. He reports a case to show how easily this operation can be carried out.

SILK AS SUBSTITUTE FOR CATGUT.

By HEIDENHAIN. *Centralblatt f. Chirurgie*, No. 8, 1899.

Heidenhain is convinced that catgut cannot be sterilised with perfect certainty. After seeing many instances of suppuration and rejection of ligatures and two very serious cases (one partial suppuration after incision of the knee joint for dislocated meniscus, and one of fatal peritonitis from rupture of the abdominal wound after an operation for hydronephrosis), he has quite given up the use of catgut. He now employs silk for all abandoned sutures, and in about 300 cases not a single suture has been ejected. He uses a fine silk (No. 0), twisted, not woven, as not only cheaper, but more easily threaded. On the morning before the operation it is sterilised by steam and

immediately placed in a 1 per cent. sublimate solution, from which it is lifted by forceps and cut in as short lengths as possible. Heidenhain ascribes great importance in symmetrical healing to improved disinfection of the hands, which are first bathed ten to fifteen minutes in hot water and then twice in 1 per cent. solution of lysol—no brushes being used twice. On the evening before the operation a formol dressing is applied to the patient. H. thinks Rohrbeck's vacuum steriliser of the largest size the best apparatus.

A CASE OF CÆSAREAN SECTION WITH INCISION OF THE FUNDUS UTERI (METHOD OF CARUSO). By PROFESSOR GIOVANNI MIRANDA. *Archivio di Ost. e Gin.*, No. 3, 1899.

By Fritsch's introduction, on May 3, 1897, of the transverse incision of the fundus of the uterus in performing Cæsarean section, this operation has entered upon a new phase. It is with a view to finding whether this modification has really the advantages claimed for it over the ordinary incision that Professor Miranda discusses his case.

On December 5, 1898, a married woman, aged 24, was admitted into the Naples clinic. She had been in labour at term for more than twenty-four hours. This was her first pregnancy, and there was nothing worthy of recording in her family history. She could not walk freely until her tenth year, and during this period the skeletal deformities appeared; since then she has had no trouble of any kind, and has always menstruated regularly. The pregnancy pursued a normal course, labour pains came on and were energetic, the membranes ruptured more than twelve hours before.

External Examination.—Nutrition rather impaired; height, 1.25 metre; rachitic signs in spinal column and lower extremities. Pelvic measurements as follows:—Bispinal 21 cm., bicrestal 20.5 cm., Baudeloque's diameter 16, left oblique 21.5, right oblique 19.5, bisischiatric 8.5, coccipubic 8 cm.

The uterus can be felt firmly contracted, the contraction ring is well marked, and the foetal head can be felt at the pelvic brim; the frontal region is to the left and anterior, the occiput is right and posterior. In front the foetal limbs are felt distinctly, the quickened foetal heart can be heard along a vertical line of propagation in the right half of the abdomen and somewhat behind.

Internal Examination.—Nothing noted in vulva or vagina; the os is completely dilated, and a free flow of sero-sanguineous fluid is going on. The sacrum is rotated towards the right pelvic wall, and the second sacral vertebra projects into the pelvic space; from this to the centre of the pubic arch is 7 cm., and the available space can thus not be greater than 6 cm.

The indication for Cæsarean section was thus seen to be an absolute one, and its execution was all the more urgent because from the length of labour, the energy of the contractions, and the marked nature of the contraction ring, rupture of the uterus was to be feared. By kind permission of Professor Morisani the writer operated.

The abdomen was opened by an incision reaching from 5 cm. above the umbilicus to within 7 cm. of the symphysis of the pubes; the whole uterus was turned out, and incised sagittally in the fundus, the cut ran equally back and forward, and behind it divided the placenta for 1 cm. The 2,600 gramme foetus was extracted by the feet; it was somewhat asphyxiated, but was soon reanimated; the secundines were extracted, and the sutures were put in while an assistant maintained pressure on the cervico-uterine cone. The sutures of silk embraced the whole thickness of the uterine wall, and were interrupted. During the suturing very little blood was lost; a hypodermic injection of ergot was given, the uterus put back, the peritoneum sutured, and then the abdominal parietes. The recovery was perfectly normal, and on the eighth day the abdominal sutures were removed and the patient left on the fourteenth day perfectly well, the uterus well involuted, perfectly mobile, and there was no trace of adhesion to the parietes.

The writer then proceeds to prove in the customary manner that Fritsch is not the originator of the incision at the fundus, and that Professor Caruso is, whence it is called Caruso's method. The advantages of this incision are that it does not usually cut into the placental site; the foetus can be extracted more easily by the feet when these are at the fundus; a more firm suture is obtainable, which is a better safeguard against hæmorrhage; the cicatrix prevents the uterus rupturing at another labour, the incision is in the area of least disturbance from accumulation of fluid in the uterus and in the most distant position from any vaginal infection, and there is the best security against ventral hernia. The antero-posterior incision of Caruso is better than the transverse one of Fritsch, because there is less hæmorrhage, the child can be extracted more easily, and the wound contracts more rapidly and strongly after emptying of the uterus.

FRED. EDGE.

CHROBAK recently exhibited to the Vienna Medical Society a rachitic woman of 27, upon whom he had, seventeen days previously, performed Cæsarean section for the third time. In spite of warning, the woman again deferred entering the clinic till too late, and yet as the children delivered by the two prior operations were dead, she was most anxious to have a living child. There was no difficulty in the operation, and the child (4050 gr.,

and 53 cm.) was born alive. The union of the incisions of the former operations was found to be quite exact; there was no local thinning, and the contractibility of the uterus was not interfered with by the two scars.

REPEATED LAPAROTOMY ON THE SAME PATIENT.

By STEFFENS. *Brun's Beiträge*, xxiii., 2.

A study of the later results of laparotomy on the basis of experiments on animals, and forty-five clinical cases. Among 1,420 laparotomies since 1885, 2·8 per cent. were repeated operations. Ileus occurred soon after primary operation in five, and after a longer interval in eight cases. The prognosis of repeated laparotomy in regard to ileus and intestinal paralysis is not favourable; 76·9 per cent. died shortly after the second operation. In order to prevent the formation of adhesions, special care should be taken to cause as little irritation of the peritoneum as possible; the toilet should not be too energetic, nor the disinfecting solutions too strong, and the wounded surfaces of divided ligaments should, as far as possible, be covered with peritoneum. Deficient peristalsis plays an important part, and Steffens, like Heidenhain and others, recommends purgatives after abdominal section.

THE DIVIDED UTERUS IN REGARD TO PREGNANCY AND CHILDBIRTH.

By WAGNER. *Zeitschrift f. Geb. u. Gyn.*, Bd. xl., S. 183.

Reports three recent cases of parturition from a divided uterus, in one of which the deformity was associated with a septum of the vagina, which had to be divided before delivery. From these cases, and numerous others published, the author concludes that septa of the uterus do not necessarily interfere with conception, but the pregnancy is liable to premature interruption. During labour, dilatation and expulsion proceed almost, or quite, normally, but hæmorrhages immediately after delivery are likely to occur from atony of the uterus. When the insertion of the placenta extends to the septum it is often necessary to interfere and detach it by hand.

BICORNUATE UTERUS MISTAKEN FOR ECTOPIC GESTATION.

By GIBSON. *Canadian Jour. of Med. and Sur.*, Dec., 1898.

The patient had been treated for leucorrhœa, and afterwards for bronchitis. During the latter she suffered from pelvic and bearing-down pains, irregular menstruation, later from great hyperemesis. An ovoid tumour was found, slightly movable and extremely tender to the touch, to the left, and apparently continuous with the uterus. The sound entered the cavity $3\frac{1}{2}$ inches. An exploratory operation was undertaken, on account

of the serious condition of the patient and the possibility of ectopic gestation, and the tumour was found to be the impregnated left horn of the uterus. Abortion taking place a week later, all of the symptoms immediately subsided and she made a good recovery. There was but one cervical canal, and a sound was afterwards passed into each of the uterine horns.

ON THE FORMS OF ARRESTED DEVELOPMENT OF THE UTERUS.

By v. WINCKEL. *Munich Med. Soc.*, December 14, 1898.

In regard to these anomalies, v. Winckel thinks that classification, nomenclature and ætiology are the three points which are worth discussing. He prefers Fürst's classification, as following the natural stages of development, to Küssmaul's and even to the more recent one of Nagel's, but there are some malformations that, strictly speaking, it does not include.

He divides the development of the genital tract into seven stages:—

- (1) (In the first month.) Origin of Müller's ducts.
- (2) (In the second.) Canalisation and commencing union of these ducts.
- (3) (Third to fifth month.) Further coalescence.
- (4) (Fourth to fifth month.) Gradual disappearance of the septum.
- (5) (Sixth to tenth month.) Development of the foetal uterus.
- (6) (From the first to the twelfth year.) Uterus infantilis.
- (7) (From thirteenth to seventeenth year.) Uterus virgineus.

He objects to any words in the nomenclature which are not derived from the stages of development but from external form, didelphys, incudiformis, bilocularis, bicameratus, bifidus, as describing the uterus; the more so as by different authors they are applied to totally different forms of arrested development. As long as Müller's ducts remain distinct, the description should be uterus et vagina duplex; when the uteri are distinct and the vaginæ united, uterus duplex vagina septa is advisable.

All other forms may be included in the following:—Uterus bicornis (septus, subseptus simplex); uterus bicornis vagina septa, subseptata, simplex, uterus introrsum arcuatus, uterus planifundalis, uterus foras arcuatus, as Fürst has already arranged them.

Ætiology.—Very little is known of the causes of these arrested developments; lues, foetal peritonitis, shortness of the vitelline duct, rupture of the allantois, and extrophia of the bladder, and numerous diseases (hydrocephalus, &c.), amniotic bands at the breech end, and the absence of one of the umbilical arteries are among those mentioned.

But in most cases these causes are insufficient, or may be altogether excluded. In the very early stage of intra-uterine

existence they may be generally set aside, so one has to resort to Wolff's duct and its relation to those of Müller as being very important factors of all these forms of arrested development, and must likewise recognise in the close proximity of these ducts their crossing and ingrowing, and especially in the direction of their growth from opposite sides, predisposing elements in their occurrence. This view is materially supported by the origin of the ligamentum rotundum from Wolff's duct, as lately proved by Wendeler and Waldeyer. The speaker supported his analysis by a series of rare preparations and drawings.

Gustav Klein followed, tracing the developments of Wolff's and Müller's ducts in the lower animals, and showing that these anomalies in the human being were pathological arrests in lower stages of development, in which certain lower classes of animals rested under normal conditions.

MONSTROSITIES AND MATERNAL IMPRESSIONS.

Dr. G. S. COURTRIGHT reported the following case to the Ohio State Medical Society last year:—W. S., in April, 1888, had his foot badly lacerated in the cogwheels of a traction engine. His wife was badly frightened at the time, she acted as his nurse, but during the following summer suffered from a constant fear that the child she was then expecting would be deformed. On September 25, 1888, she was delivered of a monocular female monster with very short legs. In July, 1889, she was delivered of another, which on each foot had six toes as long as fingers. On May 23, 1890, she bore a third monster with six fingers on each hand and six toes on each foot. No family history of redundant toes or fingers. These children were all born within twenty-one months. Dr. Courtright thought the parents might have a living child, which they greatly desired, if Mrs. S. did not become pregnant for four or five years; and on June 8, 1895, Mrs. S. bore a well formed male child, which on April 7, 1898, was a fine intelligent boy. Dr. Courtright attributes the first monster to the fright and care of the disabled husband, the other two to morbid fear and the early conceptions.

EMPHYSEMA UTERI POST-PARTUM.

By HALBAN. *Wiener cd. Wochenschrift*, 1898, No. 49.

This case was diagnosed during life, a characteristic symptom being snowball crepitation of the uterine wall. The woman died four days after delivery. At the autopsy gas bubbles were found in the blood vessels in the muscular tissues of the heart, in the liver, spleen and subcutaneous tissue. The cause of the emphysema was found in an anærobic gas forming bacillus, which was found in the stools and lochial discharge during the

woman's lifetime, and could be obtained in pure cultures from all her organs after her death.

THE ÆTIOLOGY AND TREATMENT OF GYNATRESIA, ESPECIALLY WHEN ACCOMPANIED BY HÆMATO-SALPINX.

By MAINZER (Berlin). *Archiv. f. Gyn.*, B. lvii., S. 681.

The author looks upon atresia of the ostia, whether of the vagina or uterus, as congenital, and upon those of the interior of the vagina and uterus as acquired conditions, but declares that all such affections of the genital canal may be considered congenital if nothing in the anamnesis or objective condition contradicts this opinion. He opposes the view (Veit, Nagel) that the occlusion of the tube, indispensable for the formation of hæmato-salpinx, can only arise from infection, and moreover from the same infection which caused the atresia, a view which makes the existence of hæmato-salpinx a sure criterion that atresia of the genital canal, whether the latter be single or double, is acquired and due to infection. He quotes a case from Landau's clinic, in which, although there was abundant evidence of perisalpingitis, the epithelial secretion of the tube was quite unaffected; there was no inflammatory occlusion nor inversion of the fimbria, but merely a mechanical displacement of the ostia and a narrowing of the canal from perisalpingitic processes. Hæmato-salpinx may therefore occur with genital atresia, if the congestion of the genital organs associated with discharge of blood from the uterus leads to the flow of much blood from the mucosa of the tube, and this blood partly resorbed by the peritoneum, partly clotted round the fimbria of the tube, forms the starting point of perisalpingitic processes. No interference is necessary when there is no menstrual function. Examination under anæsthesia, for diagnostic purposes, is dangerous, unless operation, which when hæmato-salpinx exists should be laparotomy, can immediately follow. Moreover the laparotomy should precede the evacuation of hæmatocolpos or hæmatometra. If during the operation it is found, in the case of a double genital canal, that the occluded half of the uterus cannot be opened into the vagina, primary castration is advisable.

WHAT IS THE PROPER FIELD OF SALPINGO-OÖPHORECTOMY?

By CHAUNCEY D. PALMER, M.D. (Cincinnati). *American Journal of Obstetrics*, Jan., 1899.

This paper is a discussion on the question as to when and to what extent the ovaries and the tubes are to be sacrificed. The three following indications for removal of the appendages are considered in detail; (a) to abrogate the process of ovulation; (b) to check or modify the menstrual discharge; (c) to remove

organs incurably diseased. In considering the question of performing Batty's operation for certain nervous diseases, the author very rightly concludes that when "there is no organic structural lesion in the ovaries, in cases of these functional nerve diseases, the operation of oöphorectomy is clearly contra-indicated." Though they may be aggravated by, they are not dependent on the menstrual periods. If the nervous phenomena can be traced to, or are limited by, ovarian action, and when some serious organic ovarian morbid change can be detected, then the operation is indicated. For true dysmenorrhœa Batty's operation should not be performed. Ovulation in an ovary in a condition of fibrous hyperplasia, with thickening of the tunica albuginea, will cause pain; this may be menstrual or intermenstrual in point of time. Most of these cases can be cured by combined general and local treatment, few may call for a salpingo-oöphorectomy. True dysmenorrhœa of uterine origin can be remedied without any major surgery.

Oöphorectomy should be done for uterine fibroids, interstitial in kind, in the earlier stages of their growth. In operations for uterine displacements with peritoneal adhesions, the condition of the appendages should be ascertained by actual inspection. Almost always they are diseased, and their removal, in whole or in part, should then follow.

The sooner an ovarian cyst is removed the better, and when the appendages are seriously and hopelessly diseased, they should be extirpated completely. In cases of gonorrhœal salpingitis, ovaritis and pelvic peritonitis, with pelvic pain, febrile disturbances and inevitable relapses threatening death, nothing but removal can be done. Catarrhal salpingitis never needs section, hydrosalpinx usually does, hæmato- and pyosalpinx almost always. A Fallopian tube slightly distended with water, mucus, or pus, may recover itself if well emptied after abdominal section. Pure adhesions never constitute a rule for the removal of organs.

Can anything be done short of removal in cases of salpingo-oöphoritis? The morbid movement begins in the uterine endometrium, and as long as the infection remains in the uterus so long will peritoneal adhesions form—local pelvic peritonitis follow. Curetting, with medication of the uterine cavity, is positive in its results. A previously occluded uterine end of a Fallopian tube may be made patent by this minor surgical step. With exsection of the tubes there is of course less danger of reinfection, and since not a few of diseases of the ovaries are resultant on tubal infections, it is important to prevent and control the morbid action at its fountain head.

In cystic degeneration of the ovary, often called cystic ovaritis (and distinct from follicular enlargement) extirpation is

not necessary; it is opposed to all the principles of conservative surgery. A simple puncturing of the larger cysts after section is all that is required.

Ovarian prolapse long-continued, with structural lesions in and about, the source of much pelvic discomfort, unrelieved by palliative treatment, calls for an oöphorectomy.

Abdominal section is the only recourse in retroflexion and retroversion of the uterus associated with prolapse of the ovaries, chronic endometritis, chronic salpingo-oöphoritis, and chronic pelvic peritonitis. If breaking up of the adhesions, removal of one or both ovaries and tubes, or the puncturing of distended cysts, with fixation of the dislocated uterus, promise imperfect relief, then complete hysterectomy, with vaginal drainage, must come.

The uterus should be removed with the appendages as a rule in post-puerperal cases, often in specific cases, least frequently in septic non-puerperal cases. Removal of the uterus causes a greater shock to the nervous system than that of the appendages. A thorough curetting of the uterus will often save the organ and obviate the necessity of its removal. It it can be saved it should, as it remains useful in a mechanical way, filling up its pelvic space and preventing displacements of structures above and about.

It is unreasonable to remove appendages of both sides when only those of one side are diseased, and only those parts of the appendages of the ovaries in particular as are hopelessly diseased should be removed.

J. F. J.

THE USE AND ABUSE OF NORMAL SALT SOLUTION.

By J. WESLEY BOVÉE, M.D. (Washington).

Amer. Jour. of Obst., January, 1899.

The author first defines the term "normal salt solution," and then gives a summary of the history of its use from the time of the ancient Egyptians to the present day, compares the methods of using it, and describes its physiological action. Under the latter heading he points out that it increases the volume of the blood and lessens its specific gravity. This, in conjunction with its stimulating effect on the cardiac ganglia and arteries, accelerates the circulation. By increasing the volume of the blood it increases the arterial tension, and thereby increases the blood supply to the heart through the coronary arteries. The skin, kidney and intestinal functions are markedly stimulated. It does not coagulate albuminous fluids, such as blood serum, but rather dilutes them, thus facilitating their removal. It augments the number of red corpuscles. It is eliminated by the skin, kidneys, lungs and intestine, and in the order named as to relative quantity. In obstetric practice it is

used in sepsis, post-partum hæmorrhage, and eclampsia, and in surgery to prevent or reduce shock during operations, and in hæmorrhage and sepsis. In infectious diseases where the blood is poisoned, salt solution has been found valuable in the way of "lavage" to carry off the toxins, and by the increased temperature following its use the production of antitoxins is stimulated.

Its greatest influence in shock is exercised if employed early. If shock be from operation, infusion should be practised immediately. Here the subcutaneous method is the best, but the rectal way is especially valuable, one or two litres being easily thrown into the bowel, especially in the Trendelenburg position. Severe hæmorrhage affords about the only indication for intravenous infusion. In abdominal work the author almost invariably leaves a considerable quantity, one to fifteen litres, of normal salt solution in the abdominal cavity. The indications for its use here are many. It promotes urinary excretion. It reduces shock by its intimate and prompt contact with the abdominal viscera. By floating the intestine it prevents it coming into contact with and adhering to denuded surfaces. If small foci of infectious material, blood clots, or ovarian or other fluids have escaped the eye of the surgeon, it dilutes or dissolves them, and lifts them up into the general peritoneal cavity for more prompt absorption. It prevents formation of coagula from venous oozing. In large quantities it prevents the collapse incident to the removal of large tumours. It prevents the almost unquenchable thirst so common after abdominal operations.

Its use is contra-indicated in cases of pericardial effusion, atheroma, cardiac degeneration, bad valvular lesions, thrombosis and recent cerebral apoplexy. Chronic inflammatory conditions of the kidneys are aggravated by it. To use it during active hæmorrhage before ligation of the bleeding vessels would be forcing the blood out from behind.

The precautions to be observed in using it are :—There must be complete sterility of solution and apparatus, and the skin must be thoroughly cleansed at the place of injection. The temperature should be 105° to 120° F. The passage of air into the tissues or vessels should be avoided. Never more than half a litre should be infused in one place in the cellular tissue. The infusion should be done slowly, about one ounce a minute can be safely introduced into the veins or the subcutaneous tissue.

J. F. J.

ACUTE GENERAL PERITONITIS. By RICHARD DOUGLAS, M.D. (Nashville, Tenn.). *Amer. Jour. of Obst.*, February, 1899.

For all practical purposes peritonitis is of bacterial origin, yet in a respectable percentage of cases examination fails to dis-

close the presence of micro-organisms. In the intensely septic mycotic form the absence of micro-organisms is accounted for by death occurring from intoxication before the colonies of bacteria are well established. It is impossible to connect the presence of a specific bacterium with a specific pathological phenomenon, to distinguish a streptococcus from one due to colon bacillus. A peritonitis may follow abortion without streptococci, and the colon bacillus, without an intestinal lesion, may produce a fatal peritonitis. The streptococcus, however, is the most frequent exciter and is the predominant pus-producing micro-organism. Against bacterial classification the author quotes Simon Flexner:—"In order that pathogenic bacteria introduced directly into the peritoneal cavity may cause a peritonitis, general or circumscribed, evanescent or fatal, the normal conditions of the peritoneum must in some way be modified." Bacteria alone and unaided by physical conditions are comparatively innocuous. Some other factor, mechanical or chemical, must be present in order to render the peritoneum susceptible to the invasion of micro-organisms. The disease is the source from whence the bacteria gain their power. Peritonitis is but an extension of a primary pathology. The author then concludes that peritonitis arises from traumatic or secondary causes.

Traumatic peritonitis arises from wounds of the peritoneum, accidental or operative, penetrating or non-penetrating. Destruction of tissue, retention of blood clots and natural secretions, prepare a suitable soil for microbic invasion. The most serious types are usually post-operative, and are due to some grave fault in the *technique* of the operation.

Consecutive peritonitis is (1) *peritonitis by continuity*, and (2) *perforation peritonitis*.

Peritonitis by continuity, extension of inflammation from an infected area to the peritoneum, is accomplished by the invading army of micro-organisms through the lymphatics, blood channels, or by direct penetration of tissues. The reactionary inflammation depends upon the virulence of the bacteria, the resistance of the tissues and the individual resistance of the patient. Puerperal peritonitis of streptococcus origin illustrates inflammation by continuity. Septic areas in the liver, spleen, pancreas, appendix, kidneys, abdominal parietes and genito-urinary tract, may give rise to a general peritonitis. The peculiar pathogenic organism varies with the character of the initial cause. In the beginning there may be alone the streptococcus, the staphylococcus or the diplococcus; sooner or later the colon bacillus.

Perforation peritonitis.—This may be due to the sudden opening of a focus of suppuration or to ulceration of the wall of a hollow viscus. In the former the duration of the primary disease, the

virulence of the micro-organism, the preparedness of the peritoneum by fortifications of adhesions and the general condition of the patient, may all modify and circumscribe the peritonitis. In the latter are all the pre-requisites for an acute inflammation—a foreign substance, chemical irritation and bacteria. Unless the process has been gradual and adhesions have formed, the higher in the peritoneal cavity the perforation the greater the tendency to diffusion and general infection.

The author lays great stress, and rightly so, on the difference between diffuse septic peritonitis and diffuse purulent peritonitis. The former in Tietze's words is "that form of peritonitis in which there is little or no exudate, with severe symptoms of intoxication, and terminating rapidly fatally." Many cases of post-operative and perforation peritonitis are of this type—very different from the milder type—general purulent peritonitis, of which the author has had six cases with four recoveries. In the former there is acute toxæmia, in the latter only mild symptoms of sepsis. A fibrinous peritonitis indicates a mild infection or a strong effort on the part of the peritoneum to limit or localise a severe inflammatory condition, while a purulent accumulation denotes a more virulent infection breaking down Nature's attempt at fibrinous barriers. The word "septic" should refer to the general condition of the patient and not merely to the presence of pus in the pelvis.

J. F. J.

PELVIC NEURITIS, OR INFLAMMATION OF THE PUDIC NERVE IN WOMEN. By WM. O. McDONALD, M.D. (New York.)
Amer. Journ. of Obstetrics, February, 1899.

After referring to the anatomy of the pudic nerve the author says that the neuritis is indicated by tenderness and pain in the trunk and area of distribution of the nerve. There are two forms—one, dormant, with tenderness alone; the other, active, in which tenderness and spontaneous pain co-exist. If tenderness once develops in the nerve trunk it never entirely disappears. The pain may radiate in every direction. The patient may be unaware of the tenderness until it is discovered by palpating the nerve. "When a woman complains of persistent pelvic pain she has neuritis, no matter what else she may have." The pelvic walls must be examined from the vagina, and the whole course of the nerve palpated. Any part of the nerve, from its origin to the clitoris, may be affected. According to the author's experience it is the most common disease of the pelvic organs of the adult woman—in 50 consecutive cases of pelvic examination he found inflammation of the pudic nerve to exist in 24. According to the author the importance of recognising these cases is immense, because—

(1) It is the pain-producing link in the chain of morbid lesions which are held to result from scars, cicatrices, bands and adhesions.

(2) In many cases it furnishes the pain and sensibility in vaginismus and dyspareunia.

(3) It is the pain-inducing condition which makes some cases of deviation and dislocation of the uterus productive of acute suffering.

(4) It is the affection which produces the severe pain of cancer.

(5) It is the cause of the severe and persistent "neuralgias," so-called, which now and then appear late in cases of pelvic peritonitis.

(6) It is the usual cause of the pelvic pain and distress which incapacitate women who, prone to become hysterical, are apt to degenerate into bed-ridden invalids.

(7) It explains the fact that so many women suffering from pelvic disease fail to get well, no matter how long they may be treated.

(8) It is the cause of the incapacity to endure physical exertion and effort shown so commonly by women who have borne children or had miscarriages and abortions.

(9) It produces the persistent pelvic and abdominal pain for which so many oöphorectomies, salpingectomies and hysterectomies have been and are still being done.

No proofs of any of the above statements are given, but the author says his purpose in publishing this article is to call attention to the existence of the disease, to indicate approximately its frequency, and to suggest the propriety of its being studied by a multiplicity of workers. There are no indications as to treatment.

J. F. J.

THIRTY-ONE CASES OF UTERO-INTESTINAL FISTULA.

By NEUGEBAUER. *Rev. de Gyn. et de Chir. Abd.*, 1898, p. 581.

Neugebauer has collected details of 28 of these uncommon cases, many being of the greatest interest from anatomical, clinical and therapeutical points of view. The particulars of one case of Kosinski's and two of Jawdynski's he had not received in time. In 16 instances the diagnosis was established during life, in the other 12 only at the autopsy. Twenty-one of these 28 fistulæ occurred in pregnant or recently delivered women; in 11 they were produced by the retention of the dead fœtus; 1 at the fourth month of pregnancy was the result of yellow fever, and 9 immediately or some time after labour, of obstetrical operations, or puerperal gangrenous parametritis, or endometritis.

In the other 7 cases, the fistula had no relation to pregnancy or labour, 2 were due to the rupture of a hæmatometra into the rectum, 2 to the suppuration of uterine myomata with evacuation of the pus by the rectum, 2 were the results during intra-uterine life of defects of conformation, and lastly, 1 the effect of intestinal tuberculosis complicated with suppuration of submucous myomata of the uterus. The uterus communicated with the stomach in 2 cases, with the rectum in 9 cases, with the sigmoid flexure in 3, with the transverse colon in 1, with the small intestine in 12. In the remaining 1, the localisation was not determined.

Fourteen cases recovered, 14 died. Of the former, the fistula was obliterated spontaneously in 11, after foetal portions retained in the uterus had been extirpated by the rectum or by the vagina; in another case, the fistula persisted several years after an attempt had been made to suture it; the remaining 2 were cured by cœliotomy.

Of the 14 who died, cœliotomy had been practised in 2; 9 succumbed to pyæmia, 2 to tuberculosis and 1 to yellow fever.

P. Z. H.

SENILE ENDOMETRITIS. By LORAIN. *Révue Méd.*, Jan. 11, 1899.

This term is applied to an inflammatory condition of the uterine mucosa occurring in women already the subjects of senile involution. Always due to bacteria, it is most commonly met with between the ages of 50 and 60, and in Lorain's experience constitutes about 7·2 per cent. of all cases of endometritis. The first symptom is a yellow or yellowish-green discharge, frequently fœtid and mixed with blood and sometimes accompanied by metrorrhagia, slight pains in hypogastrium and sacrum, and sensations of itching and burning in the vulva. Bimanual examination reveals nothing particular. The affection is very chronic in character and is little prone to acute or subacute exacerbations or extension to neighbouring organs. The general condition cachectic, and with the discharge appearing such a long time after the menopause, offers a considerable resemblance to carcinoma, a much rarer disease. In carcinoma the discharge does not appear till the advanced stage of softening, the uterus is enlarged and painful; while in endometritis it is small, infantile and rarely painful; but in spite of these and other differences, correct diagnosis is often impossible without exploratory curetage and histological examination. For treatment Lorain recommends the gradual dilatation of the uterus by Hegar's dilators and washing it out with an antiseptic solution (creosote, ichthyol-glycerine, or tincture of iodine). The average length of treatment is from three to four weeks.

THE INFLUENCE OF CASTRATION ON THE FEMALE SYSTEM.

By PFISTER. *Archiv. f. Gyn.*, Bd. lvi., Heft 3.

In the Canton Hospital at St. Gall, during the years 1880-1896, 179 women were castrated by Kuhn for various diseases. An exact account has been preserved of 116, and the causes of the operation were: Disease of tubes and ovaries, 70; disease of the uterus, 45 (myomata 33); irreducible retroflexion, 12; and artificial atresia of the vagina, 1. The cases are most carefully reported and will bear comparison with the similar statistics already published, the results of which they generally confirm.

The menopause was brought about in 94·8 per cent., in two cases of uterus unicornis the menses did not cease, and the author concludes that some ovarian remnants must have been left. Vicarious hæmorrhage is mentioned twelve times. Apart from cases of myoma the operation had a beneficial influence on leucorrhœa in 80 per cent. The fact that a certain number of women after castration continue to enjoy sexual relations, may, the author thinks, be explained by their having been married when young, and received permanent psychical impressions, so that, as it were, a libido centralis had been established. This agrees with the circumstance that spinsters or virgins are completely deprived of sexual impulse by castration. The uterus always atrophied, but the author found the vagina and external genitals in many cases did not suffer any change of this kind. It seems, therefore, that sexual inclination and the nutrition of the vagina and external genitals are more independent of the function of the ovaries than the uterus and menstruation. In most cases there was an increase in the body weight, yet different from the increase after natural climacteric, those operated on not appearing so matronly but becoming more attractive and youthful. Kepler has made the same remark. Therapeutically the results may be called very good. In 87 cases relief was complete, in 18 gratifying. All tumours underwent considerable involution, several entirely disappeared. Hysteria, as elsewhere reported, was but little or only temporarily influenced. In 19 instances more or less abdominal hernia developed.

CONGRES PERIODIQUE INTERNATIONAL DE
GYNECOLOGIE ET D'OBSTETRIQUE.

We would draw the attention of Fellows to the following interesting details concerning this Congress which have been forwarded to us.

The Third Session of the International Congress of Gynæcology and Obstetrics will be held at Amsterdam, from the 8th to the 12th of August, 1899.

The questions arranged for discussion are as follows:—

- (1) The surgical treatment of fibro-myoma.
- (2) The relative value of antiseptics and improved technic for the actual results in gynæcological surgery.
- (3) The influence of posture on the form and dimensions of the pelvis.
- (4) The indication for Cæsarean section compared to that for symphysiotomy, craniotomy and premature induction of labour.

Among those who have consented to take part in these discussions are Messrs. Doyen, Howard Kelly and Schauta, who will treat the first question; Messrs. Bumm, Richelot and Lawson Tait the second; Messrs. Bonnaire, Pinzani and Walcher the third; and Messrs. Leopold, Pinard and Pestalozza the fourth.

The reports, with their translations in the official languages, will be sent to all the members, a month before the opening of the Congress. As regards private communications, preference will be given to those bearing upon the above-mentioned leading questions. Time will also be allowed sufficient for any demonstrations kindly afforded by the members.

The official languages are: English, French, German and Italian.

The subscription for membership is one guinea. Subscription forms and further particulars may be obtained from the Hon. Secretary for Great Britain and Ireland, Dr. Arthur Giles, 37, Queen Anne Street, London, W.

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THIS is described by its makers, Messrs. L. J. White, of 35, Farringdon Road, E.C., as "Nature's Perfect Laxative." It is composed of the purest cold pressed castor-oil, and flavoured in such a way that the nature of the oil cannot be detected. This should prove a very valuable preparation for the many to whom the name of castor oil is nauseating.

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Messrs. Friedk. Bayer and Co., who introduced Hervin a short time ago, have now brought out this salt, which is a white crystalline powder of neutral reaction and easily soluble in water or alcohol. The original difficulties in the use of Hervin are thus overcome, while the value of the drug, especially in cases where the heart and arterial system is weak, and where morphine may not be tolerated, remains. It will no doubt receive an extensive trial by the Profession.

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This oil, distilled from the leaves of the citron-scented eucalyptus—*Eucalyptus. Maculata*, var. *citriodora*—is readily distinguished from the eucalyptus oil, to which we are all accustomed, by its remarkable odour, pungent and *quite* distinctive. It is volatile, colourless, and said to be a powerful antiseptic, suited to a variety of troubles associated so frequently with influenza. It certainly has the pleasantest aroma of any of the antiseptics and their allies, and will no doubt on that account alone, apart from its intrinsic merits, become a favourite with the public.

It is put up in one-ounce bottles by Messrs. Langton, Fort, and Co., of 20 and 21, St. Dunstan's Hill, E.C.

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Messrs. Fromms, of 5, White Street, E.C., have adapted to vegetables what we are now accustomed to in animal food, the process of extraction whereby the nutritive elements of vegetables may be presented in a highly nourishing, digestible, and concentrated form to patients, who require but cannot assimilate, a sufficiency of vegetable nourishment. Fromms' Extract can be easily taken spread on bread-and-butter without making any appreciable demand on an invalid's powers of absorption.

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This is one of Mertz of Darmstadt's numerous productions. It is a condensation product of tannin and formaldehyde, of the formula $C_{29}H_{20}O_{18}$. It occurs as a loose reddish-white powder, insoluble in water, but soluble in alcohol, in ammonia water, and solution of sodium carbonate. It is said to be an excellent and innocuous anti-hidriotic and siccative antiseptic in bromidrosis in hyperidrosis, in soft chancre, bed-sores, ulcers and cervical catarrh.

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BRITISH GYNÆCOLOGICAL SOCIETY.

THURSDAY, MAY 11, 1899.

H. MACNAUGHTON-JONES, M.D., PRESIDENT, IN THE CHAIR.

THERE were present 21 Fellows and Visitors.

The following gentlemen were elected Fellows of the Society :—W. Blair, M.D., Wigan ; T. W. Jenkins, M.D., M.A., Glasgow.

The following were proposed for election :—Charles N. Burton, M.R.C.S., L.R.C.P., London ; Major Samuel F. Peck, M.R.C.S., L.R.C.P., I.M.S., Bengal.

LARGE INTRA-CYSTIC MAMMARY SARCOMA REMOVED BY OPERATION.

Dr. HERBERT SNOW exhibited a photograph of this specimen, excised in April last. The patient was a married woman, aged 56, with two children. There was no history of injury, but there had been much recent trouble and anxiety, to which, with pressure by tight stays, the growth was attributable. It appeared only a year and a half previously, and had rapidly grown to a huge size, forming

a prominent bossy mass of unequal consistence. It was first noticed as a little lump under the inferior aspect of the organ. There was a dull continuous aching pain, but the general health was sound. The axillary region was tender, but there was no glandular enlargement. The skin was enormously distended, livid, and marbled by large veins; the nipple was almost obliterated by the pressure; the whole growth was mobile.

On excision the growth proved a congeries of whitish fibrous masses, which had developed within a primary cyst. Part of the cyst-wall remained, but most of the fluid contents had disappeared (as usually happens in these cases) through continuous pressure. The solid remainder, after incision, weighed 4 lbs. 4 ozs. The wound healed by first intention.

The microscopical section showed transition between well-organised fibrous tissue and the embryonic spindle-cells of true sarcoma. Formerly, these tumours were often allowed to ulcerate, and were termed "fungating adenoma." They proved then rapidly fatal, through exhausting drain of blood serum and attacks of hæmorrhage. Modern surgery rarely allowed them to proceed so far. There were no metastases, and the localisation of the disease, with consequent curability by excision in even the most advanced stages, showed a striking contrast to the clinical phenomena of mammary carcinoma.

Dr. HEYWOOD SMITH asked how the flaps were fashioned in this case?

Dr. C. H. F. ROUTH remarked that he read a paper at the International Congress to show how often diseases of the breast were associated with and kept up by diseases of the uterus. As an example, he had a case in which he removed a breast for carcinoma; it healed up, but the wound kept on breaking down. He then examined the uterus and found a very large ulcer involving the cervix and vagina. He cured this and the breast got quite well.

He would ask Dr. Snow whether the condition of the uterus was examined in his case.

The PRESIDENT said that in some of these cases it was very difficult to determine whether the disease was a true carcinoma, or a transitional stage between that and adenoma. He had seen some cases in which the clinical conditions pointed to scirrhus, but a microscopical examination showed the growth to be an adeno-sarcoma. Sometimes also the pathological conditions were so mixed that it was very difficult to determine microscopically the precise nature of the growth. Cases such as Dr. Snow's were not often seen at the present day, because they were usually operated on earlier.

In reply, Dr. SNOW stated that, although the skin covering was so tense, there was no infiltration of the subcutaneous tissue, as would have been the case with a carcinoma. He had dissected off sufficient flaps for union by first intention, and did not think there would be any "recurrence." He fully agreed with Dr. Routh that uterine lesions might exert a considerable effect in causing mammary ones; but believed that both much more often followed a common cause, the pressure of stays hindering development on the one hand, and healthy involution on the other. There were no uterine symptoms in the present case, and the woman was long past the climacteric. It was certainly, however, an excellent rule, in the absence of obvious cause for a mammary tumour, to seek it in the uterus. The errors in microscopical diagnosis, referred to by the President, Dr. Snow considered mainly due to reliance by pathologists on the phenomena of prepared sections alone. In these the true shape of the cells was often disguised or altered. It was most essential to examine the individual cells, as nearly as possible in their natural state, as well as the hardened thin section.

THE TREATMENT OF GONORRHŒAL SALPINGITIS. By J. W. TAYLOR, F.R.C.S., Surgeon to the Birmingham and Midland Hospital for Women, Consulting Surgeon to the Wolverhampton Hospital for Women.

GONORRHŒAL salpingitis is now a well-recognised disease, but many of us can remember the time when the connection between "inflammatory disease of the uterine appendages" and gonorrhœa was by no means established.

When Noeggerath published his treatise in 1872, maintaining that gonorrhœa had dreadful consequences; that it was the main cause of pelvic peritonitis and sterility, and that it was practically an incurable disease, men first of all looked upon him as a wild dreamer and enthusiast. Then, little by little, abundant evidence was found to corroborate most of his assertions, but it was only very slowly that his work received any recognition or support. It was not until some ten or fifteen years later that the seriousness of gonorrhœa in the female began to be generally recognised, and enterprising surgeons began to operate freely for inflammatory tubal disease by removal of the uterine appendages.

At first, operation was generally limited to the removal of the appendages on the side chiefly or solely affected at the time when the operation was undertaken, but the after-history of these cases was not altogether satisfactory. In many instances extension of the disease occurred on the opposite side, and in a short time the patient was in quite as bad a condition as before operation, so that a second section was needed for the removal of the remaining appendages.

In consequence of this, attention was directed to the advisability of complete removal of the appendages in all cases of operation for "inflammatory disease." Papers were written on the subject—notably one by Mr. Tait—advocating this treatment, and for a considerable time it was accepted as final that thorough removal of the uterine

appendages by abdominal section was the one and only cure for gonorrhœal salpingitis.

But there were difficulties in the carrying out of this advice, and the results, while in some cases very successful, in others were decidedly disappointing. In separating the adhesions, which were often very dense, the bowel—particularly the sigmoid flexure and rectum—was liable to injury, generally in inaccessible regions. Further, the ovary, when peeled or torn away from its surroundings, left some of its tissue behind it, and with this there was often persistent menstruation; the uterus, which had evidently been the centre of infection throughout, remained untouched, and in a small proportion of cases, notwithstanding the utmost care, local peritonitis and fæcal fistulæ resulted, while in others, notwithstanding the utmost thoroughness, menorrhagia and pain persisted after operation, the hæmorrhage in some of these cases being rather aggravated than otherwise by the means undertaken for the cure of the disease.

In the meantime, while this experience was forming or, at all events, before it had been fully formed, Péan and Segond in Paris, Doyen of Rheims, and Landau of Berlin, recognising the gonococcus as the source of the disease, and gonorrhœal endometritis as the starting-point of infection for both Fallopian tubes, not only argued with true logical deduction that the uterus should be removed, but proceeded directly to put this reasoning into practice, and began treating cases of inflammatory tubal disease by extirpation of the uterus as well as removal of the tubes. This was done by the vaginal route, and the result was, on the whole, more satisfactory perhaps than any treatment previously adopted. At all events the treatment was a radical one, and if the patient made a satisfactory recovery, there was, of necessity, no further trouble from uterine hæmorrhage, or from the pain and distress accompanying the pelvic congestion recurring at each menstrual period.

This practice has never been thoroughly adopted and

followed in England as a primary procedure, but many English surgeons (including myself) have been over and over again glad to avail ourselves of vaginal hysterectomy as a cure for rebellious cases, and it would be difficult to speak too highly of its value when every other means has failed.

On looking back over all this period of strenuous surgical effort—whatever may have been its mistakes of enthusiasm and misdirected energy—we cannot withhold a hearty acknowledgment of the courage, the perseverance, and the honesty of purpose which marked in the main each point of progress, or a warm appreciation of the splendid saving of life which has attended one department of the work from the very beginning—viz., the operative treatment of pyo-salpinx.

It must, perhaps, be remembered, on looking back over this period, that the issues involved in the work then beginning were by no means so simple and definite as represented in my imperfect sketch. Side by side with the question of the cause of pelvic inflammation and its treatment was the question of its seat—whether it was usually within the peritoneum (“perimetritis”) or in the cellular tissue outside it (“parametritis”)—and with the elucidation of this problem Birmingham was, perhaps, more directly concerned than with that which I am now more immediately discussing. In addition to these two problems a subsidiary one, but one more pressing, was the question of the danger of this “pelvic inflammation” if left alone, and there can be no doubt that some operators were so impressed with this danger, and so impressed it on their followers, that for a considerable period the finding of any inflammatory tumour in the pelvis was considered a valid reason for immediate abdominal section.

All this has been vastly altered during more recent years. With greater knowledge and more certainty of diagnosis there is more careful differentiation of grades of inflammation and the necessities of individual cases ; we know better

what may be expected from rest and medical treatment, and operation is reserved for the minority of cases—or, if this goes too far, is certainly not practised anything like so frequently as in former years.

But what about these cases—cases of undoubted salpingitis—that are not operated upon? Do they, if they improve under rest and hygienic treatment, necessarily relapse and get worse again, as we formerly thought, or do they get permanently well?

These are questions which I felt needed answering, and as I could not find any answer that I could trust, I set myself to study the disease as well as I could, hoping to find the information I needed by experience.

If I am not in a position to speak as definitely as I should like this evening, I feel I have learnt during the past thirteen years a few facts about the history of the disease and its course under treatment that influence my own practice and justify me, I believe, in bringing the subject before the notice of my colleagues.

One of the first things that struck me in the clinical study of salpingitis was the frequency of a syphilitic history; indeed, in many cases it was more easy to elicit this than any clear history of a gonorrhœal discharge, and for some time it was a question with me whether syphilis was not a factor in the causation that had been overlooked.

Gonorrhœa—the gonococcus—was perhaps the only source of gonorrhœal inflammation in the mucous membrane of the tube, but was it the sole cause of tubal obstruction, tubal distension, and pyo-salpinx?

In some cases of pyo-salpinx possessing a syphilitic history, I have found at the operation a clearly defined nodule of thickening at the uterine end of the tube—a nodule, which, on section, had all the appearance of a syphilitic gumma. In all cases of marked pyo-salpinx the abdominal ostium of the tube is more or less occluded by tubal and peri-tubal swelling, and it is at all events possible

that a syphilitic thickening of the tube may assist in the contraction of the abdominal ostium which appears to be the necessary and immediate cause of tubal distension from retained secretion.

On consideration, however, of other cases of acute pyo-salpinx in which there could be no syphilitic history, and in which the obstructive swelling at the uterine end of the tube was amply accounted for by the acuteness or severity of the inflammation surrounding it: on consideration, too, of what I may term the natural frequency of the two diseases in the same individual, I felt that the point—interesting as it might be—was of little practical value, and that in all probability the ratio of syphilitic and non-syphilitic cases was not appreciably different to the ratio of syphilis with gonorrhœa, and gonorrhœa alone, irrespective of tubal disease.

So far, if my work had not been misdirected, it was barren of any very profitable result. But, after a time, another point began to engage my attention, which bids fair to be of greater value.

This point I may perhaps express as *the greater tractability of gonorrhœal salpingitis in syphilitic subjects*, in other words, after some months or years of treatment I found a perfection of cure in my syphilitic cases that I failed to secure in cases of pure and uncomplicated gonorrhœal origin.

Before we consider the reason of this, and as I do not want you to take anything for granted, I will run over as shortly as possible a few of my cases which are more prominently in my mind.

Mrs. C. is a patient I have known and watched for fifteen years. When first I saw her (in 1884) she was suffering from syphilis contracted from her husband, and had recently had a miscarriage (at four months), which I considered to be due to syphilitic disease.

On recovering from the miscarriage she almost immediately showed signs of gonorrhœal infection—a dangerous

time for infection to take place, as the uterus is temporarily dilated. She had gonorrhœal vaginitis and the inflammation spread upwards. Pelvic inflammation followed, and a mass formed in the pouch of Douglas having all the characters of an enlarged or distended tube. For nearly the whole of the next year (1885) she was rather seriously ill—a constant patient—and was kept on mercurial and iodide treatment. The tubal tumour did not materially alter, and I was thinking of removing it by operation when, in September of this year, she unexpectedly became pregnant. The complication of a (possibly) syphilitic pregnancy, very liable to abort, and gonorrhœal salpingitis was specially awkward from a surgical point of view, and as the general condition of the patient had improved, I decided to wait, maintaining the anti-syphilitic treatment mainly for the sake of the coming infant. The patient went to her full time, and was delivered on May 29, 1886, of a boy, who remains alive and well to the present date. After pregnancy was over the tumour of the damaged appendage was still to be felt. Occasional, but no persistent treatment was maintained, and although the tumour steadily decreased in size and fixity, I find from my notes of occasional consultations after this date that it was not until 1890 that all traces of the tumour had disappeared. This disappearance has been final.

About eighteen months or two years ago the patient's husband died. She has rather recently married again—much more happily, I believe—and is now—at the present date, November 14, 1898) about six months' pregnant, without a trace of discoverable disease on the most careful examination.

Mrs. D. I have known and occasionally attended for eighteen years. A short time after her marriage she was infected by her husband with syphilis, and left him. For some twelve years she maintained herself, every now and then having some transient syphilitic symptom or affection which received temporary attention, but the treatment was

left off as soon as the symptom was relieved. On the whole, she had fairly good health, and at no time did she have any pelvic, menstrual, or vaginal trouble.

In 1892 a reconciliation was effected with her husband, and she returned to him. Early in 1895 she began to suffer with pain in the right side, right leg and hip, worse on standing, walking, or changing position, but not worse at night. At first nothing definite could be found. She went to the seaside for a change, and while there was seized with violent peritonitis, during which, I understand, her life was despaired of. She had the advantage of every comfort and advice, and a London opinion was obtained for her. After some weeks of careful nursing she returned to Warwickshire, a thorough invalid, and I again saw her. I then found marked disease of the uterine appendages on the right side. The inflammatory mass formed a rather large tumour, and the parts were fixed, but there was no fluctuation, or evidence of any marked collection of pus. I thought an operation would be necessary, but the patient wished to avoid it, and I was ready to try the effect of further treatment. Knowing her old history, and how well she responded in former days to anti-syphilitic treatment, I gave her grain doses of hyd. c. creta and five to eight and ten-grain doses of iodide of potassium. This she has taken ever since, and with steady improvement—improvement without the slightest relapse. She has now no trace of disease on bi-manual examination. She is in robust health, and can walk ten or twelve miles with enjoyment.

Mrs. E. is a patient I have also known for about eighteen years, though I have only very rarely attended her. During a large portion of this time she and her husband have been under the care of Dr. Bull, of Sparkhill. He has attended both of them for gonorrhœa and syphilis.

In July, 1895, I was asked to see Mrs. E. in consultation with Dr. Bull. She had been confined to her bed for some weeks. She had severe abdominal and pelvic pain, and her

temperature had been varying between 100° and 102° F. I found well-marked tubal disease—a mass on the right side reaching above the groin—but the exudation was hard and resistant, and there was no evidence of any large collection of fluid.

I advised mercury and iodide as in the previous case, arranging, however, to see her again if there was no improvement, so that operation might be undertaken if necessary. From this date the patient steadily improved. I saw her nearly a year afterwards, and there was no trace of the old disease. I wrote to Dr. Bull last week, asking for news of her. He states: "Mrs. E. is in good health, and is now managing a business." This patient has had a child since her attack of salpingitis, but it was born at seven months and only lived one day.

Mrs. F. was brought to my hospital out-patient room on Feb. 26, 1896, by Dr. Vince. She was 20 years of age, and had been married nineteen months. She had one child, living, and of good general health. Pain had been complained of in the left side for six months. This was steadily increasing, was worse one week after menstruation, and prevented her from attending to her duties. The case was already recognised as one of gonorrhœal salpingitis, and my opinion was asked regarding operation. I found a hard, tender mass to the left of the uterus, rather fixed, and agreed with the diagnosis already made. I had some talk with Dr. Vince regarding my experience of these cases and asked him if there was any history of syphilis as well as of gonorrhœa. On March 3, I received the following note from him:—"Since seeing you, I have found there is a distinct history of syphilis in the husband. He is under me now with brain trouble, probably gumma. He has a gonorrhœal discharge at the present time, and the baby is practically blind from gonorrhœal ophthalmia." I thought it quite possible that the case might improve with specific treatment, and ordered the patient a mixture of the red iodide of mercury (gr. $\frac{1}{2}$) with iodide of potassium (5 grs.)

to be taken three times a day (a formula which I use largely for continued administration). This she has now taken continuously for nearly three years, and with steady improvement — improvement in which there has been no history of relapse whatever. The recovery has been slow but sure and uninterrupted. More than a year after the treatment was begun I find this note :—"Appendages palpably diseased on both sides, but not tender."

To-day (November 10, 1898) I have examined her and find that the right ovary is still fixed, but this is the only pathological condition to be found. The patient herself states that she is perfectly well, has no pain or discomfort, and wishes to know if she may discontinue her attendance.

I could, if I liked, supplement these cases by several others, but the four I have cited will, I think, suffice. Everyone must acknowledge that they are capital examples of cure after severe gonorrhœal salpingitis. One patient can walk twelve miles with comfort, another manages a business which she has taken up since her illness, another who has only just regained her full health has, nevertheless, through the time of treatment, been attending to the cares of her family and the needs of her syphilitic husband, while another, after seven years of freedom from disease, has buried her miserable past, married again, and is six months pregnant with the first child of a second family.

Can anyone show similar cases of recovery after gonorrhœal salpingitis in non-syphilitic cases? I confess that until quite recently I could not produce them or anything really approaching to them in my own practice. And if the general consensus of skilled professional opinion is to be trusted, there has been no expectation of or belief in similar results since the publication of Professor Sinclair's book in 1888.

If the cases I have brought forward, then, are at all exceptional in their recovery, to what are we to attribute the happy issue?

Is the poison of syphilis in any way antagonistic to that

of gonorrhœa? I do not think this can be maintained for a moment. The one disease does not in any way prevent the other, and *untreated* cases of both diseases in the same individual are among the very worst that I have encountered. I am forced to the conclusion that the treatment of the case is the main factor in recovery, and I am far more interested in putting this fact as clearly and forcibly as I can before the notice of the Society than in maintaining any special theory of its mode of action. At the same time, when I consider the difficulty in the untreated disease, not so much of obtaining temporary resolution of inflammatory products—this can often be obtained by simple rest in bed—but of obtaining a cessation of relapses and a steady progress towards permanent recovery, and when I find this recovery repeatedly following a prolonged and uninterrupted course of special treatment, I question whether this effect is attained simply by promoting absorption, but am more inclined to believe that the mercury, collected in the tissues of the body after persistent administration, has some direct antagonistic action to the vitality and spread of the gonococcus in the deeper layers of the mucous and in the submucous tissues. In contradistinction to the opinion expressed by most writers of the last decade, *I believe it may be possible to destroy the power of latent gonorrhœa, as well as that of the distinctly local and acute affection, and that this may be attained in a marked degree by the use of the very same means by which we attack the poison of syphilis.*

Since coming to this conclusion I have treated several cases of pelvic gonorrhœa uncomplicated with syphilis by mercury and iodides, and, in every case in which it has been possible to continue supervision and treatment, I have had very similar results to those already reported. It will be obvious, however, that in most of these cases the duration of treatment has been as yet insufficient to fully test the value or permanence of its results, and that without general acceptance of the principles on which the treatment rests

there is, and will be, no likelihood of obtaining the same hearty co-operation on the part of the patient and medical attendant that is so well and cheerfully given in syphilis. One case in point is that of Mrs. G. She came to my outpatient room on September 23, 1896, with a history of abdominal and pelvic pain of some months' standing. She was also suffering from a chronic vaginal discharge. On examination I found that both of the uterine appendages were inflamed and adherent—that on the right side was adherent to the uterus only—that on the left was adherent to the pelvic wall. On October 22, I put her on the biniodide mixture to which I have already referred. She took it during October, November, December and January, and at this date was so much better that only faint traces of any disease remained in the pelvis, and she herself refused further attendance. For half a year I did not see her. She returned on July 8, 1897, complaining as before. Treatment was resumed, and she has continued it until the present date. The uterus is perfectly free and movable, and there is no trace of disease to be found on examination.

Another case of different type—recent and acute (the notes of which are entirely furnished by the patient's medical attendant), may fitly close the series to which I ask your attention at this stage of my paper.

"Mrs. H., age 30, has three children. The last child was born on March 25, 1898, and a good recovery was made from the confinement. After a short visit to some friends in the following July, Mrs. H. returned home on July 16, in the best of health. On July 19, she felt some vaginal irritation, followed by vaginal discharge, and on July 22 (the doctor states) I was called in to see her. I found her in bed, suffering from great abdominal pain, more especially on the right side of the abdomen, and from a profuse purulent discharge from the vagina. The temperature was 101° F., and in the evening this rose to 104° F. On inquiry and examination of the husband, I found that he also had a discharge from the urethra, which, to my mind, was a

typical gonorrhœal discharge. As important questions were involved in the diagnosis, specimens of the discharge were sent to London for bacteriological examination, and gonococci were found in abundance.

"The pain, temperature, and discharge continued in spite of douching and other remedies. On August 9, Dr. Annie Clarke saw her in consultation, and found the uterus fixed and the right half of the pelvis completely roofed by hard inflammatory swelling.

"On August 21 acute pain was complained of on the left side of the abdomen.

"On August 31, it seeming probable that some operative interference might be needed, Mr. Taylor, of Birmingham, was called in. Gonorrhœal salpingitis, with its attendant sub-peritoneal exudation, was found on both sides, but at only one point was there any indication of possible 'pus' formation.

"Specific treatment was advised in the form of a biniodide mixture, and suppositories of ichthyol were ordered for vaginal use.

"From ten days to a fortnight after this date there has been steady and continued improvement. The patient got up for the first time on September 25."

In a letter dated November 14, 1898, the doctor writes:—

"I am glad to tell you that at last our patient is out again, free from all pain and discharge, but naturally very weak after her long and trying illness. I made a vaginal examination last week and all that was to be felt was a hard, cord-like band running across the roof of the vagina on the left side. The right side was apparently quite normal."

The view of the disease and its treatment which I have presented for your consideration has not only its medical but also its surgical aspect.

If we may hope for some radical control of pelvic gonorrhœa from medicine not only will operation be less frequently necessary, but partial operations which were

formerly derided and stigmatised as useless will find a legitimate use, and prove, in conjunction with medical means, a higher and better method of treatment than that of complete removal of the appendages so strongly urged in former years.

For instance, the free opening of pus-cavities without ablation of the uterine appendages or the removal of a pyo-salpinx of one side only when the tube and ovary of the opposite side are so far free from disease and perfectly healthy, may be good practice, and is sound in principle if we can guard against the extension of disease.

As an adjunct or handmaid to surgery, too—after operation has been performed—the specific treatment of the patient may sometimes ensure a success that otherwise might be wanting. When the wound refuses to heal, the stitches are ulcerating out—the drainage track is sloughing—the temperature hectic and the appetite wanting—when the case seems slowly going to the bad some two or three weeks after the immediate danger of the section has been successfully passed (a not very uncommon sequel after abdominal section for pelvic gonorrhœa with abundant pus-formation and almost confined to this class of case), the power of the biniodide to improve the condition in my own hands has been marked and almost immediate in its action.

If my contention is right, we may hope from the use of specific treatment, for a selective action in cases before operation—limiting the necessity of the latter—for a greater freedom of choice during operation of various methods more or less conservative, and finally (after operation) for its influence as an aid to recovery that may materially improve both immediate and remote statistics.

This brings me to the consideration of pyo-salpinx and its treatment.

I incline to the belief—based mainly, perhaps, on clinical and operative observation—that dangerous pyo-salpinx is but rarely a purely gonorrhœal disease, that it is usually

a product of mixed infection, and that the more dangerous element comes from the intestinal tract.

It is always—or nearly always—started by gonorrhœal inflammation, but so long as it remains a sac of purely gonorrhœal pus it is usually small and only rarely dangerous. But as the pus-sac enlarges it comes into immediate relation with the bowel, and usually with the sigmoid flexure and rectum. The pus-sac is infected from the neighbouring bowel—like a broad-ligament pregnancy under similar conditions—the condition becomes urgent, the patient cannot sleep for pain, and the temperature, though sometimes unreliable, may rise to high pyrexia.

Then operation is needed, and no unnecessary delay is permissible, and the operation I wish to recommend with the utmost force of which I am capable is that of posterior vaginal cœliotomy—the thorough opening of the pouch of Douglas from the vagina—the digital and bi-manual exploration of the tumour or tumours from this situation, the tapping of all pus-cavities deliberately carried out, the enlargement of all openings thus made, and the establishment of pelvic drainage from all infected parts by a tampon or tampons of iodoform gauze.

If this operation is done as I have advised—by free incision (no puncture or simple tapping is sufficient), the urgent symptoms are at once and thoroughly relieved, a condition of imminent danger of death is converted sometimes as if by magic into one of peaceful rest and happy convalescence.

The maximum of relief—I speak advisedly, for the peritonitis following removal of a double and adherent pyo-salpinx is often severe, and the after result in no way better than that attained by the operation I am advising—the maximum of relief is attained with the minimum of danger and the minimum of injury to the sexual organs concerned. I have repeatedly employed this method of treatment during recent years and have followed it up in most cases (so far as I have been able to do so) by specific

treatment. In each of these cases I have been more and more satisfied with the efficiency of the means employed and impressed with the vast superiority of this operation over the removal of the tubes by abdominal section.

The following cases may be taken as recent examples of its value :

Mrs. I., aged 28, had been married four years. Her husband confessedly had contracted gonorrhœa since his marriage. Six weeks ago the patient had a green discharge from the vagina, and for four weeks had suffered with severe abdominal pain.

I saw her on the evening of May 25, 1898, in consultation with Dr. Milligan.

She evidently had some general acute peritonitis. The abdomen was distended and tympanitic ; the legs drawn up. She had frequent vomiting, a pulse of 120, and a temperature of 103° F. She was very feeble, very restless, and crying with pain. On vaginal examination a mass was found in the pouch of Douglas, and pushing the uterus to the left. The tumour was acutely tender. A dose of calomel was ordered to be given at once, followed by frequent enemata, and it was arranged to move the patient to my house for operation on the following day. On May 27 I opened the pouch of Douglas, separated adhesions, and evacuated a large quantity of foul pus from the right Fallopian tube. The abscess cavity was washed out and packed with iodoform gauze.

In the evening her pulse was 96. She was comfortable ; her bowels had been opened with a simple enema, and she had a fairly good night's rest afterwards, "the first good night for weeks." The patient made a good recovery.

Mrs. J., aged 24, married four years, came to my outpatient room on August 25, 1898, complaining of abdominal pain and dyspareunia, which had been increasing for six months. On examination I found what I took to be an enlarged and tender left ovary that was evidently the source of the pain complained of. I ordered a mixture of bromide and viburnum, and gave some general hygienic advice.

On October 27, the patient was brought to the hospital evidently suffering from intense pain. She was crying, and stated that she had had no sleep for four nights on account of this. Her temperature was 101° F. On again examining her I found a fixed tender mass to the left of the uterus pushing the latter to the right. This was acutely sensitive to touch, and I believed it to be caused by a distended tube. On closer inquiry into her case I found that there was a distinct history of copious purulent vaginal discharge some three years ago. I altered the diagnosis to one of acute pyo-salpinx, and admitted her into hospital. Operation was done on October 31. I opened the pouch of Douglas through the posterior fornix and evacuated some dirty and rather foul serum from the pelvis. On examination through the opening thus made I found the left tube was dilated into a large pus-sac, having thick walls, and being very adherent. I first tapped this with a trocar and cannula, and afterwards opened up the punctured incision with my fingers. One or two secondary collections of pus were also set free. The cavities were sponged out and packed with iodoform gauze.

The patient, who had been before the operation almost a type of misery, immediately altered. In the morning she was smiling, happy, and good-tempered, and said that she had passed the best night she had had for several weeks. She has made uninterrupted progress, and leaves the hospital to-day.

I do not wish it to be inferred that I regard posterior vaginal cœliotomy as the only operation to be undertaken in pyo-salpinx. When the tumour is large and prominent or "presenting" towards the abdominal aspect, abdominal section may prove a better means of access to the seat of mischief. Wherever this seat of mischief is most accessible, *there* is, in nine cases out of ten, the best point of attack.

I will not, however, dwell on this part of my subject, but pass on to the consideration of the *limitations to success*

in the treatment of gonorrhœal disease, and any means we possess of avoiding them. These may be shortly considered under three heads :—

(1) The severity or complications of the disease preventing recovery.

(2) The carelessness and distaste of the patient for any prolonged treatment.

(3) The effect of adhesions in causing sterility and occasional pain.

(1) The first is undoubtedly the most important. In spite of all that may be done in the future I quite believe that there will remain a residuum of intractable cases, and among these I would particularly point out cases complicated with uterine fibroid or anything which tends to cause or increase uterine hæmorrhage. When bleeding is severe no patient or medical attendant will continue a course of treatment which is not immediately directed to the stopping of the hæmorrhage. In addition to this, both mercury and iodides in some people appear to increase the tendency to bleeding. In all of these cases I recommend vaginal hysterectomy, with or without removal of the appendages. It is not only the most rational operation in theory, but is productive of the best final results when conservative surgery is hopeless.

(2) The carelessness and distaste of the patient for treatment will often be an annoying feature and source of failure, as it is so often in syphilis. In some cases the biniodide mixture causes nausea, and even vomiting. When this is the case smaller doses may be tried, or recourse may be had to a method of treatment, which is occasionally very useful. Only one dose of iodide is given in the day, but this is a large one—from 15 to 20, 30 or 40 grains. This is taken the last thing at night before going to sleep. Every other night, or every night if necessary, a Plummer's pill (pil. hyd. subchlor. co.) is taken at the same time. The patient keeps all her medicine in her bedroom, and only needs to remember it on retiring to rest.

(3) The effect of adhesions as a limitation to full recovery is a more important matter. Occlusion of tubes and peritubal adhesions, consequent on gonorrhœal salpingitis, do not partake themselves of any specific character and must be regarded rather as secondary mechanical results of the inflammation which has been caused by the pelvic gonorrhœa, differing in no essential from peritoneal adhesions elsewhere, such as those caused by injury, by appendicitis, or by gall-stones.

Their absorption and disappearance will not, therefore, be secured by the cure of the gonorrhœa. The cure of the gonorrhœa will be the necessary preliminary, but the actual disappearance of adhesions will probably depend on the perfection of the general health and the power of relative mobility enjoyed by the adhering organs.

As a necessary consequence it will, I believe, be found that sterility will still result or persist when the appendages of both sides have been attacked by disease before any treatment has been begun. But if energetic treatment is started when only one side is affected and the opposite tube is healthy, one may reasonably hope that the healthy tube will remain healthy and the patient retain her fertility. Such is the explanation, I believe, in both of the cases I reported at the beginning of my paper, in which conception took place at a period subsequent to the salpingitis, while in the acute case of pelvic gonorrhœa, notwithstanding the comparatively short duration of her illness, both sides have suffered and future fertility is hardly to be expected. I shall be interested to watch this case and see if my forecast is justified.

For similar reasons a remainder of occasional and slight pain may be rather frequently expected in the most favourable cases—such a sequel as is often met with after an ovariectomy from adhesions to the stump. This depends mainly, I believe, on the involvement of intestine or omentum in attachments.

If these escape, the patient has no pain—if they are

involved, the patient may have occasional discomfort and sometimes acute, if transient, colic.

The consideration of this subject would not be complete without some reference to prophylaxis, and to the treatment of acute and chronic gonorrhœal vaginitis. In the acuter forms of gonorrhœal salpingitis when specific vaginitis and endometritis are also present, and in gonorrhœal vaginitis when it may still be possible to limit the upward spread of the disease, local treatment is of very great and indeed of primary importance.

As regards the gonococcus, the strongest and best local germicides known (according to Neisser) are the nitrate of silver, the perchloride of mercury and ichthyol, and it is on one or more of these that chief reliance should be placed.

In all cases of acute gonorrhœal salpingitis in which the uterus and vagina are also affected, I use a vaginal suppository of ichthyol (10 per cent.) every night and a douche of crude acetic acid during the day. In cases of complicated gonorrhœal vaginitis, especially in hospital practice, I generally use a vaginal suppository of silver nitrate (gr. $\frac{1}{4}$) every night, and the same vaginal douche of pyroligneous acid (3ss. ad Oj) twice during the day.

If, as only very rarely happens, the patient comes almost immediately after exposure to contagion, it may be advisable to disinfect the vulva, vagina, and cervix manually, as in a vaginal cœliotomy.

In one case of vaginitis of about two days' duration, in which the patient was already feeling considerable and rapidly increasing discomfort, but in which, it is only fair to say, the gonorrhœal origin was never thoroughly established, I did this with the very best result. The disinfection was repeated three times, and the patient was directly cured with no relapse.

In cases where there is no evidence of endometritis or tubal disease the local treatment advised contains all that is required, and this should be applied in the simplest

possible manner. No unnecessary examination should be made, and the use of the sound should be forbidden as most dangerous.

It is only in cases of tubal disease, where the appendages are evidently affected by gonorrhœal inflammation, in gonorrhœal rheumatism or arthritis, in gonorrhœal endocarditis, and in persistent and incurable discharges due to gonorrhœa, that the local treatment must be supplemented by the administration of mercury and iodides, as described in the earlier sections of my paper.

To emphasise and make ready for discussion the main points contained in this communication, I have prepared a short abstract, or *précis*, of the propositions I am disposed to maintain, and on which I invite the criticism of my colleagues.

First.—That a large number of women who are suffering from tubal disease have been at some time or another exposed to the infection of syphilis as well as of gonorrhœa. That these undoubtedly show marked improvement after a prolonged course of mercury and iodides, and in the course of this treatment, unless acute pyo-salpinx intervenes (in which medicine is useless), it is the rule rather than the exception for all gross physical signs of disease to slowly and permanently disappear.

Secondly.—That many cases in which there is no history of syphilis, including cases in which there is the unmistakable history of gonorrhœa, pure and simple, as the sole cause and starting-point of tubal disease, do similarly improve and get permanently well under the same course of treatment, provided always that the disease stops short of acute pyo-salpinx and its dangerous complications.

Thirdly.—That acute pyo-salpinx is peculiarly liable to occur in the first place on the left side of the body, and its special severity is probably due to secondary infection from the rectum. That cases of pyo-salpinx, whenever possible, should be treated by free incision of the posterior

vaginal fornix, by thorough exploration and emptying of all pus-cavities from the pouch of Douglas, and by iodoform gauze drainage. That this is far preferable to the older operation of removal of the appendages, which is not only much more dangerous, but is peculiarly liable to be followed by fæcal fistula, an operation sequel sometimes worse than death itself.

Fourthly.—That such cases of mixed infection and acute suppuration treated by operative evacuation of the pus, with or without removal of the appendages, do sometimes not only recover but remain permanently well without further treatment, the acuteness of the inflammation appearing to terminate the process of infection. In other cases, recovery is not so complete or relapses are met with, and these cases should be followed up by a course of specific treatment, the beneficial result of this being often immediately manifest when the wound tissues are unhealthy and the healing is delayed.

Fifthly.—That occlusion of the tubes and peritubal adhesions consequent on gonorrhœal adhesions have no direct specific causation, and must be regarded rather as secondary mechanical results of the local peritonitis which has been caused by salpingitis.

Their absorption and disappearance will not therefore be necessarily secured by the cure of the gonorrhœa, and sterility may persist although gonorrhœa is entirely eradicated from the system.

Sixthly.—That in gonorrhœa of the pelvis there will probably remain a residuum of intractable cases, particularly cases of complication with other diseases, such as fibroids of the uterus. That in these cases operative removal of the organs affected will still be required, and that vaginal hysterectomy whenever possible, with or without extirpation of the uterine appendages, is not only the most rational operation in theory, but is productive of the best final results.

A CASE OF DOUBLE PYO-SALPINX, IN WHICH ONE OF THE TUBES CONTAINED NINETEEN OUNCES OF PUS—REMOVAL BY ABDOMINAL SECTION—RECOVERY. By JOHN CAMPBELL, M.A., M.D., F.R.C.S.Eng.; Surgeon to the Samaritan Hospital for Women, Belfast, and Assistant-Surgeon to the Belfast Maternity Hospital.

There are on record several instances of the Fallopian tubes having become distended to enormous dimensions—*e.g.*, Lawson Tait removed seven litres of fluid from a hæmato-salpinx; Stemmann operated upon a tuberculous tube containing two litres of pus; and Championnière met with a pyo-salpinx in which there were about twelve hundred grammes of pus. The case, however, to which I now venture to call attention presents several features of interest independent of the size of the tubes. The fact that the tumour attained such proportions without causing any notable amount of pain is in itself remarkable. Further, the almost entire absence of adhesions is quite contrary to all my experience of pyo-salpinx, as I have invariably found the larger collections of pus associated with numerous dense adhesions. Finally, the origin of the condition is somewhat obscure. No history of urethritis or vaginitis could be obtained. The patient had only been married for ten months, and had never been pregnant. There was no rise of temperature or other sign of tuberculous disease. From the thickness of the walls of the tube, and from the absence of acute symptoms, I am inclined to believe that the pus must have been present long before marriage, and that it must have originated in connection with some illness during childhood or adolescence. The following is a brief history of the case:—Mrs. C., aged about 27, and married ten months, consulted me on April 25, 1898, about an occasional pain in her left iliac region. She had never been pregnant. Menstruation was regular every four weeks, lasting four days, and only sometimes accompanied by pain. Micturition was normal, and had always been so. The

bowels were confined. She was a robust, well-nourished, somewhat plethoric woman. Both breasts contained secretion. The abdomen was distended by a firm oval tumour, springing from the pelvis and extending to within two fingers' breadths of the navel. It was most prominent to the left of the middle line. On vaginal examination the uterus was found to be retroverted, with a large movable tumour above it, and a smaller fixed one below and to the right of it. The urine was normal. Operation was advised and was performed on May 3, 1898. A median incision exposed the larger tumour, which proved to be the greatly distended left tube. Nineteen ounces of pus were withdrawn by aspiration and the tube was removed. The right tube was then found to be in the pelvis and slightly adherent. It was removed entire. From its appearance I estimated that it contained $3\frac{1}{2}$ or 4 ounces of pus. Both ovaries were much enlarged, and firm and tough in consistence. They were resected, the portions left being about the size of normal ovaries. The patient made an excellent recovery. I examined her on March 15, 1899, *i.e.*, about ten months after operation, and found the uterus slightly retroverted. She enjoys good health and has been menstruating regularly.

I am indebted to Dr. Lorrain Smith for having preserved the specimens for me.

In the discussion on these two papers,

Mr. ALEXANDER FOULERTON said that there was a good deal of bacteriological evidence at our disposal with regard to the relative frequency of gonorrhœal infection in the causation of salpingitis. He had carefully examined the pus from sixteen cases of pyo-salpinx with the following results :—Cultures of *Micrococcus gonorrhææ*, *Staphylococcus pyogenes albus*, and *Bacillus coli communis* were each obtained in two cases, and of *Streptococcus pyogenes* in one, and in all seven cases the parasite present was found in pure culture. In the remaining nine cases no culture appeared on the media, but in two of them the presence of *Bacillus tuber-*

culosis was proved by other methods. The cultivation experiments in all sixteen cases included the inoculation of a smear of fresh human blood on an agar plate, with the view of obtaining cultures of the gonococcus if present. Such a series as this was, however, much too limited to permit of any conclusions being drawn from it. Accordingly he had brought together a number of results published by others; and in compiling the statistics he had taken into consideration only work published since 1890, and work done by those—such as Menge, Steinschneider, and others—who had devoted special attention to this matter. Thus his own series of sixteen cases was the smallest individual series included. The following figures were, therefore, as free as possible from various sources of fallacy. In all he had been able to collect 459 cases of salpingitis so examined, and among these cases were 85 in which the gonococcus had been identified, or about 19 per cent. On going into the matter in detail, however, he found that in about 60 per cent. of the cases no micro-organism of any sort had been identified in the contents of the tubes. Out of every hundred cases of salpingitis, therefore, there were about sixty cases in which the pus was, at the time of examination, sterile; there were about twenty cases in which the gonococcus was present; and there were about twenty cases in which bacteria other than the gonococcus were found. And first, as to the sixty cases in which the contents of the tube were sterile of bacteria, the explanation of their occurrence in so large proportion was probably a simple one. These cases did not, as a rule, come under bacteriological examination until the inflammatory process was already of some considerable duration; and the causative parasites had meanwhile died out, partly starved for want of nourishment, partly poisoned by their own excretory products—just in the same way that a number of animals would perish after a time if closely confined in a limited space. Then as to the twenty cases in which bacteria other than the gonococcus were present,

a considerable number of these cases would have to be rejected when considering evidence as to the etiology of salpingitis, for the reason that the bacteria present were obviously there as the result of a secondary infection of tubes already in a state of inflammation from some other cause. Thus, whenever *Bacillus coli communis* was found in a pyo-salpinx, Mr. Foulerton felt sure, as the result of a number of observations which he had made in various cases of pelvic suppuration, that its presence might always be attributed to a secondary infection from the bowel following the formation of adhesions between a tube already inflamed and some neighbouring portion of intestine. When, therefore, we considered only those cases in which the cause could be proved by the exact methods demanded in pathological research, we found that the gonococcus was present as the causative parasite in considerably more than half such. And that this estimate is, owing to the conditions under which examinations are made, considerably less than is actually the case is highly probable when we take into consideration the further light thrown on the subject by clinical observation. He did not think, on the other hand, that there was much trustworthy evidence of any sort that syphilitic infection was an important factor in the causation of salpingitis. As to the treatment of salpingitis he had very little to say, but Mr. Taylor had offered them a sufficient variety to choose from, ranging in severity from the administration of biniodide of mercury to the performance of hysterectomy. His own view was that since an inflamed tube was a serious source of potential danger to a woman, and a constant cause of ill-health, the sooner it was removed the better. But hysterectomy would, he thought, very seldom be necessary. With regard to the prevention of salpingitis, perhaps an even more important matter than its treatment, there was rather more to be said. Recognising as he did the frequency of gonorrhœal infection as a cause of salpingitis, he thought that surgeons generally had not availed them-

selves of the assistance in the treatment of this disease which had been placed at their disposal as the result of pathological research. Thus a case of primary gonorrhœal infection in a woman was almost invariably treated as a vaginitis by means of vaginal medication of one sort or another. Whereas it seemed to have been clearly proved that a true gonorrhœal vaginitis was a rather uncommon occurrence. Bacteriologists had shown that gonorrhœal infection of the genital tract in a woman was first manifested either by a urethro-vulvitis or by endocervicitis, in the majority of cases perhaps by both. The vaginitis which occurred with gonorrhœal infection was, on the other hand, not usually caused directly by the specific coccus at all, but was rather the result of the spreading upwards of an inflammatory process caused by other bacteria which had gained access to the original lesion situated somewhere in the region of the external urethral meatus and caused by the gonococcus. Thus in 489 cases in which the vulvar discharge was examined, the gonococcus was found 323 times, or in about 66 per cent., whilst in 680 cases in which the purely vaginal discharge was examined the gonococcus was found only 54 times, or in about 8 per cent.

Bearing these facts in mind, the usual treatment of primary gonorrhœal infection in women must be condemned as inadequate. The treatment of the disease as a vaginitis was the treatment of what was merely a secondary complication; it might, indeed, incidentally have some good effect on the primary urethro-vulvitis, but left the primary endocervicitis untouched. And he thought that if more attention were paid to the condition of the cervical canal in cases of gonorrhœal infection, the frequency of so serious a complication (as salpingitis undoubtedly was) would be very much diminished.

Dr. WM. TRAVERS congratulated Mr. Taylor on his paper, which dealt largely with the medical aspect of these cases. When he first took up gynæcology it was chiefly in its medical aspect; the advance of the subject had

necessarily led him and others to treat it from the surgical standpoint; but there was still much to be said on the medical side. His own experience had been that perchloride of mercury cured many of these cases; and in his hospital practice he had often given the drug before resorting to operation. And as time went on, he found more and more cases cleared up under medical treatment.

Mr. C. RYALL thought that Mr. Taylor laid undue stress on syphilis as a cause of the symptoms of salpingitis. At the Lock Hospital he found many cases of syphilis complicated by unrecognised gonorrhœa which had been overlooked. As regards preventive treatment, he did not think that enough credit was given to work done in this country. The best treatment of gonorrhœa was, he thought, the local application of nitrate of silver, 40 grs. to the ounce, whether the infection was one of the urethra or of the cervical canal.

Dr. C. H. F. ROUTH said the question was, What did really constitute gonorrhœa? Were other bacilli that might be present hostile or otherwise to the gonococcus? They had probably no right to conclude that most of these cases were syphilitic, even if they had got well under anti-syphilitic treatment; and they should always remember that every case of gonorrhœa should be treated not only locally, but also on general principles.

Dr. R. H. HODGSON thought it made very little difference whether pyo-salpinx was due to gonorrhœa or to syphilis. Mercury acted on both, and it was a drug that was specially well borne by women. It could be used with advantage also when the cervix was first affected, and in this way they could treat the disease itself, and not merely its tubal complication.

Dr. GEORGE ELDER (Nottingham) commented on the fashions that prevailed in medicine and surgery. A few years ago they were in the habit of removing the appendages when there was a history of gonorrhœa with recurrent attacks of pelvi-peritonitis; but now, with the swing of

the pendulum, they were becoming more conservative in their methods. The mercurial treatment was advised twenty-five years ago, and the patients got well and remained so; but they were much indebted to Mr. Taylor because he had given them the reasons for the success of the treatment. With regard to Dr. Campbell's case, he had also seen patients with large pus-tubes who were able to get about, showing neither temperature nor much pain. The largest cases he had seen had been cases of mixed infection, where there had been communication between tubes and bowel.

Dr. ARTHUR GILES considered that Mr. Taylor's paper was one of great value, and that it would be increasingly appreciated when it could be read over at leisure in the journals. One point clearly brought out was that gonorrhœa was in many cases complicated by an unrecognised syphilis, and that these cases consequently improved considerably under anti-syphilitic treatment. He was greatly interested in Mr. Taylor's remarks on the value of mercury in the treatment of gonorrhœal pyosalpinx, even when syphilis could be excluded. This was a most suggestive point, and one which would probably be found very useful in practice. This teaching, which on the showing of some previous speakers, was not new, had probably lapsed; certainly he had not heard it in his student days. But independently he had experienced the value of mercury in the treatment of condylomata of the vulva, in cases where there was no suspicion of syphilis. He had often found that by the internal administration of the biniodide of mercury, combined with local applications of blackwash and blue ointment, condylomata nearly disappeared in a week. The infrequency of gonorrhœal vaginitis was to be explained by the anatomical structure of the vaginal epithelium, which was stratified. Bumm had found that gonococci apparently had great difficulty in penetrating this epithelium, while they could attack the single columnar layer in the urethra and cervix with ease.

He had long felt that the treatment of gonorrhœa by applications to the vagina alone was very inadequate ; and that the proper treatment in the quite early stages was to thoroughly disinfect the vagina and cervix under an anæsthetic.

The PRESIDENT said that Mr. Taylor's paper was an important one which would be sure to attract attention not only in this country, but also abroad. The discussion would help to remind them that gonorrhœa and syphilis were mixed up in a large proportion of cases ; he had himself learned this from the careful observations of the late Tilbury Fox. In many cases where syphilis was denied without deceptive intention, there had really been some syphilitic infection. He had not so far seen the view advanced that mercury should be given in cases of advanced tubal disease ; but this was a question that required careful attention. An important point in the paper was the conservative one of the advocacy of posterior vaginal section in the treatment of pyo-salpinx. There were cases in which, as Mr. Taylor said, medicines were useless ; and which nevertheless stopped short of pyo-salpinx. Still, the indication was operation. It would seem to him a dangerous thing to rely too much on the *vis medicatrix nature*, instead of treatment by removal of the adnexa. At the same time his firm personal belief was that many adnexa were removed unnecessarily. The points raised by Mr. Foulerton were of great importance ; he had seen it stated that the gonococcus was found as the causal factor in 33 per cent. of cases of pyo-salpinx. It was also important that they should remember that the cervix was so often infected. Much harm might be done by treating the vagina alone and also by forcible douching. He believed that the cause of the infrequency of vaginal gonorrhœa was, as stated by Dr. Giles, the structure of the vaginal epithelium.

Dr. Campbell's case was a very interesting one, the absence of pain was a notable point in many of these

cases. A year ago he showed a specimen at the Obstetrical Society, from a patient with a similar history ; there was no pain until the function of the bladder became interfered with ; yet two large purulent sacs were removed, and the bladder reached to near the umbilicus. It was a general rule that in tubal disease the symptoms might be very slight in proportion to the severity of the condition.

Mr. TAYLOR, in reply, said that the main point in his paper was not the recognition of the fact of the complication of gonorrhœa by syphilis ; but that in cases of mixed infection improvement of the salpingitis could be effected by anti-syphilitic treatment ; and that similar improvement also occurred in cases where there was no syphilitic history, but where similar treatment was adopted. He thought that both clinical and bacteriological examination would go to show that most cases of pyo-salpinx were primarily due to gonorrhœa or tuberculosis, but that dangerous symptoms were due to secondary infection from the intestine. The statement that primary gonorrhœal vaginitis never occurred seemed to him too strong a statement ; but it might be very transitory. It had long been recognised that the source of danger to the woman was the disease in the cervix ; but he had found that mechanical treatment of the cervix and uterus might be disastrous, and might lead to salpingitis. In his opinion the treatment by suppositories was better. He had not found any harmful result from the vaginal douche.

Dr. CAMPBELL expressed his thanks for the interest the Society had shown in his paper.

BRITISH GYNÆCOLOGICAL SOCIETY.

THURSDAY, JUNE 8, 1899.

H. MACNAUGHTON-JONES, M.D., PRESIDENT, IN THE CHAIR.

THERE were present 37 Fellows and Visitors.

The following gentlemen were elected Fellows of the Society :—C. N. Burton, M.R.C.S., L.R.C.P., London ; Samuel Francis Peck, M.R.C.S., L.R.C.P., Bengal.

DECIDUOMA MALIGNUM.

Dr. F. W. N. HAULTAIN (Edinburgh) showed a specimen of this growth, together with microscopic sections, and gave a lantern demonstration of microphotographs.

DECIDUOMA MALIGNUM ? A CRITICAL REVIEW FROM A CASE SUCCESSFULLY TREATED BY VAGINAL HYSTERECTOMY. By F. W. N. HAULTAIN, M.D., F.R.C.P.E., Lecturer in Obstetrics, Edinburgh School of Medicine.

Ten years ago, Sängér described under the name of Deciduoma Malignum, a new growth of the uterus, which he considered owed its origin to an immediately pre-existing pregnancy. Since then a considerable number of cases have been recorded.

The condition in question is of much importance clinically, and interesting pathologically. From a clinical aspect its importance lies chiefly in its malignancy and comparative rarity. When untreated by radical means, death in the majority of instances occurs within six months of the confinement, although in a few instances it seems to run a more chronic course. The causes of death are

hæmorrhage, septicæmia and pulmonary embolism from metastases, the last being most common.

Its supposed rarity is questionable. Already I have been able to collect ninety cases published; of these the vast majority are German. In England, curiously enough, but six cases have been described, and in Scotland only one. This infrequency in Britain is probably to be explained through a want of appreciation of the true character of the growth, many being considered ordinary carcinomata and sarcomata, and having claimed no particular attention. This contention is supported by the fact that up to 1896 when the condition was comparatively unknown, only twenty-six cases could be found in the literature, while now, three years later, ninety cases have been recorded.

Though important clinically, it is doubtless from a pathological standpoint that this so-called deciduoma is of paramount interest; indeed, it is questionable if any pathological subject within the last five years has comparatively had bestowed upon it more investigation or given rise to such diversity of opinion as regards its structure, origin and designation. Observers may be divided into two primary groups: (1) Those who believe the growth to be an ordinary sarcoma, having no connection with pregnancy; and (2) Those who consider it to owe its origin to an immediately pre-existing gestation. The first group embraces practically the opinion of all the British investigators, with the exception of Teacher; while the second group only agree to differ in detail. Thus we have Sängér suggesting its decidual origin, Gottschalk maintaining that it arises from the stroma of the chorionic villi, and Williams, from the syncytium alone; while Marchand, Gebhard, Teacher and many others assert that its structure embraces both the epithelial layers of the chorionic villi. To still further complicate matters, the question of the origin of the syncytium forms a point of debate as to whether the tumour is maternal, foetal, or both.

Before venturing, therefore, any assertion on this much-

vexed question, I will take the opportunity of describing in detail a case which I had the good fortune to have placed under my care.

On October 12, 1898, I was asked by Dr. Thomson, of Musselburgh, to see with him a woman who was suffering from copious uterine hæmorrhage and who gave the following history :—

On September 10, after a period of amenorrhœa, which had lasted for ten weeks, she was seized with a sudden and profuse hæmorrhage, for which the vagina was plugged. As the bleeding continued and the uterus was found to be enlarged, it was decided to evacuate its contents. After the introduction of a bougie into the uterus and tight vaginal plugging, she spontaneously expelled a myxomatous mole. Her recovery seemed in every way normal and satisfactory ; but on October 6 slight bleeding reappeared, and after a few days there was expelled a large, fibrinous mass, not unlike a carneous mole. During and after its expulsion the bleeding was excessive and reduced the patient to a state of profound anæmia. At this time I now saw the patient. On local examination the uterus felt enlarged and soft and the cervix sufficiently patulous to admit the finger for a considerable distance, though not entirely to the fundus.

Being of opinion that I had to deal with subinvolution due to retention of gestation products, I curetted the uterus and was at the time struck with the free nature of the bleeding which occurred and which could only be stopped by very thorough intra-uterine plugging. As I was suspicious on this account of some malignant growth, I preserved the scrapings and carefully examined them microscopically (fig. 1). They showed the characteristic multi-nucleated protoplasmic masses and large nucleated cells described as occurring in deciduoma malignum, and, I therefore advised immediate hysterectomy. As Dr. Thomson informed me, however, that the patient was well, the bleeding having entirely ceased, and that she and her friends would not

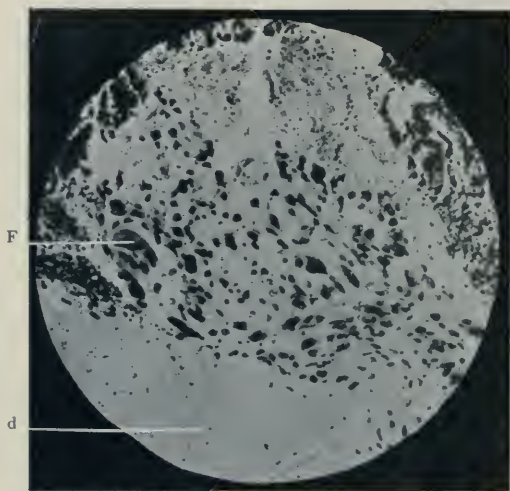


FIG. 1.

Uterine scrapings which show (F) nucleated protoplasmic masses and large actively proliferating malignant cells. (d) Fibrin.

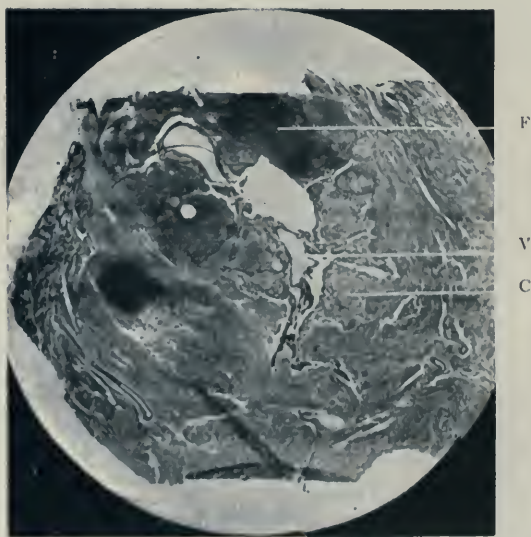


FIG. 2.

(F) Necrotic area. (C) Cellular area of activity. (V) Villi.

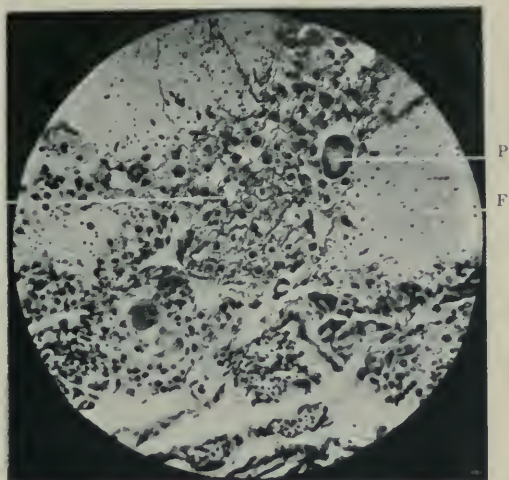
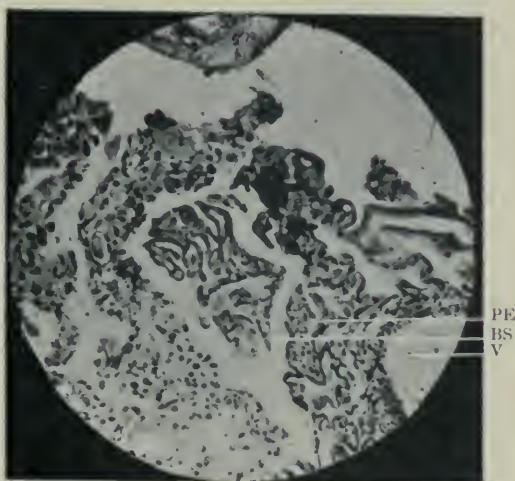


FIG. 3.

Shows large nucleated individual cells and multi-nucleated protoplasmic masses, (P). Fibrin, (F). $\times 100$.



Protoplasmic mass. Blood sinus. Villus.

FIG. 4.

(V) Tip of villus. (BS) Blood spaces. (PE) Proliferating epithelium. $\times 50$.

hear of such radical methods being adopted, I reluctantly abandoned the idea of immediate operation, but strongly insisted that in the event of hæmorrhage recurring such should be carried out without delay.

On November 21, 1898, more than a month after curetting, a sudden profuse hæmorrhage occurred, and the patient was sent to my hospital. On arrival, after a journey of some miles in an ambulance, during which she was bleeding profusely, I found her in an extremely exhausted and exsanguine state. So much so indeed that I felt immediate operation to be unsafe. As I was aware of the terribly malignant nature of the disease, I hesitated to delay operation long, and on November 24 performed vaginal hysterectomy, which was easily and rapidly accomplished. The ovaries and tubes were not removed. Her recovery was uninterrupted and she is now in evident health, although eight months have passed.

On examination of the uterus there was found on section a small growth (the size of a walnut) springing from the upper part of the anterior uterine wall, sessile in nature and bulging into the uterine cavity. It was covered (with the exception of a small portion) by apparently smooth, healthy mucosa, and from the uncovered portion there protruded a mass of blood clot. The rest of the uterine cavity was lined by an apparently healthy mucosa. (See coloured plate.)

On a complete section of the tumour, the portion which bulged into the uterine cavity appeared to be composed mainly of fibrinous material, which indefinitely and irregularly gave way to a grey, apparently cellular layer, which in turn encroached upon the substance of the uterine wall in an equally indefinite and irregular manner by means of prolongations along the blood sinuses. This infiltration was by no means extensive, and appeared to leave a large area of healthy uterine tissue between the growth and the serous surface of the uterus.

Microscopically :—The structure of the growth is seen to be composed of blood clot, two varieties of cellular elements and chorionic villi (figs. 2, 3, 4).

The cellular elements are of two types :—(1) Large polyhedral cells, which stain lightly, and whose large nuclei show a wide intranuclear network, and (2) multinucleated deeply-staining protoplasmic masses of all varieties of shape, whose nuclei are extremely rich in chromatin and show no wide intranuclear network as in the other cells. Both varieties of elements, however, show a marked tendency to retraction of their protoplasm and vacuolation. Mitotic figures are frequently observed in the individual cells, but nowhere in the protoplasmic masses. The relationship of these two types of cells varies greatly; in some instances it appears as if groups of individual cells were confined in alveoli formed by processes of nucleated protoplasm. This is most apparent when in close relationship with the chorionic villi. As one proceeds further from the villi the cells and protoplasmic masses are arranged indefinitely. The individual cells, in some places, are much in excess of the protoplasmic masses, while in others the latter only are to be distinguished (fig. 5). Nowhere is there evidence of intercellular substance, or blood-vessels, although free blood is intimately mixed with the cells, and is also found in the vacuoles in their substance.

Extending into the muscle can be seen clumps of both types of cells, apparently following the perivascular lymph spaces, while throughout, individual cells may be seen finding their way indiscriminately, with a special tendency to penetrate the venous sinuses and engraft themselves on the interior of their walls, where they continue to proliferate.

The chorionic villi in some instances show degeneration of their stroma, but others present an almost normal appearance. In all, however, there is evidence of great activity in their epithelial coverings. On section of the tumour three areas might be microscopically described :—(1) The sub-mucous or peripheral area, which forms the main bulk of the tumour mass, and is necrotic in character, composed of fibrin and cellular elements in all stages of degeneration



DECIDUOMA MALIGNUM.

Uterus (full size). Posterior wall split open showing Uterine cavity. (*d*) New growth on anterior wall. (*b*) blood-clot attached to tumour. (*m*) normal uterine mucosa.

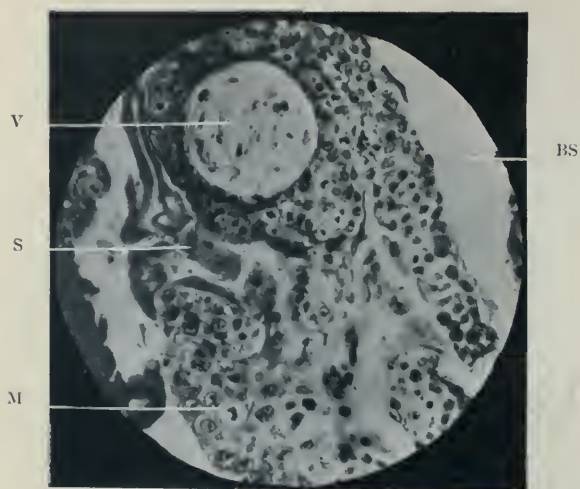


FIG. 5.

Transverse section of chorionic villus in tumour, showing intense proliferation of both layers of epithelium. (V) Villus. (S) Protoplasmic masses of syncytium. (M) Individual cells showing mitosis. (BS) Blood space.

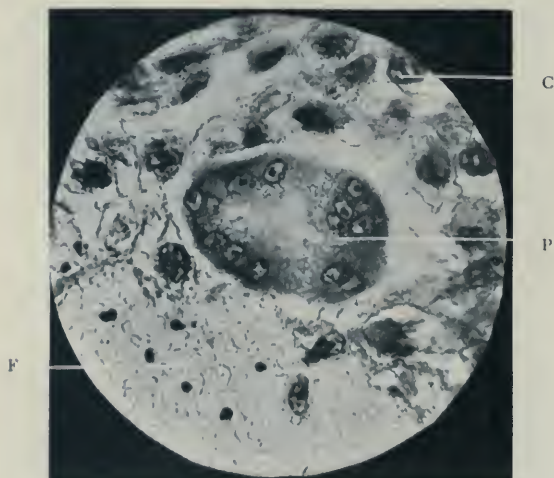


FIG. 6.

Higher power of cellular layer. (C) Individual cells with intranuclear network. (P) Nucleated protoplasm. (F) Fibrin. $\times 400$.

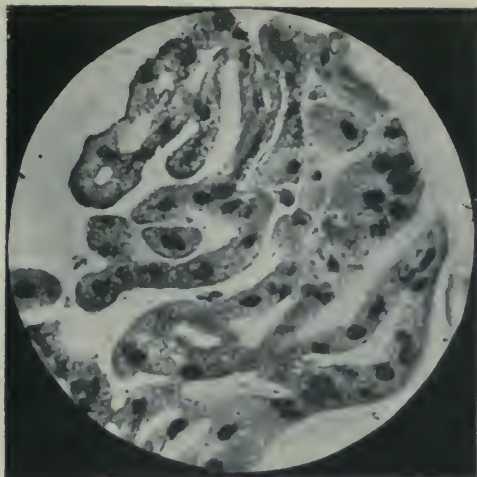


FIG. 7.
Branching multinucleated protoplasmic processes in free blood spaces. $\times 400$.

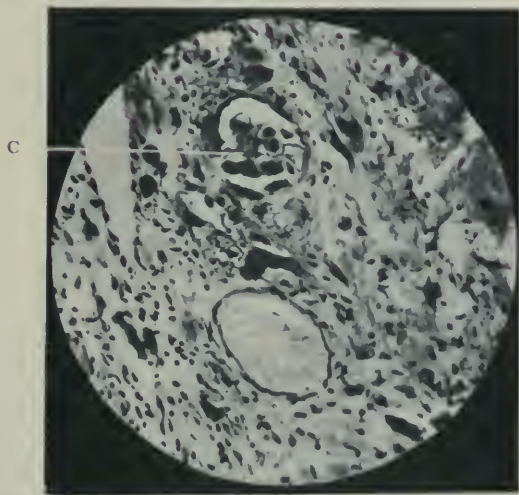


FIG. 8.
Area of invasion. Both varieties of malignant elements (C) in small vessel and surrounding tissues.

(2) a cellular area or tumour proper, which is composed entirely of actively proliferating cellular elements and chorionic villi mixed with free uncoagulated blood ; while (3) we have the area of infiltration, in which may be seen cells and protoplasmic masses isolated, and in groups, insinuating themselves into the blood channels (fig. 7), and surrounded by the degenerating muscular fibres of the uterine wall. From what has been described, therefore, it would appear as if the rôle of the cellular elements composing the growth was to penetrate the blood channels, in which, so long as the blood circulation continued, they maintained their vitality and proliferated rapidly, but when coagulation and extravasation of the blood took place, they rapidly degenerated. It also appears as if the protoplasmic processes and masses had an amœboid character not only in their power of movement, but more especially in the phagocytic action on surrounding tissues ; everywhere they were surrounded by a free blood space, and in the interior of many of the masses could be seen degenerated blood and *débris* in the process of absorption. From this action their power of rapid infiltration is very great.

In seeking for an origin of this curious variety of growth, and at the same time recognising the fact, as pointed out by Sängér, that they always arise after an immediately pre-existing pregnancy, one naturally turns for a physiological prototype to the placenta.

Here, as is well known, in the early weeks we have extreme activity in the epithelial coverings of the villi, especially at their tips, where they come in contact with the decidua (figs. 10, 11). By means of this epithelial proliferation more villi are formed, and at the same time, through the phagocytic action of these epithelial layers, maternal blood-vessels are opened into, and an actual encroachment made into the decidua itself. In due course, however (according to Fothergill), the decidual cells, which are also phagocytic in action, overcome the ingression of the chorio-epithelium, destroy it entirely when in contact with it, and

thus prevent infiltration of the uterine wall by villi. In other words, the decidua may be looked upon as the first line of maternal defence against the inroads of parasitic villi. On microscopic examination the villi are found to be covered by two layers of epithelium, an inner composed of individual cells (Langhan's layer) and an outer of nucleated protoplasm not differentiated into cells (syncytium), and on comparing these layers with the cells of the tumour in question one is struck by the similarity. If further proof be wanting of their identity one need only turn to the villi found in the tumour, which, as shown in fig. 7, display an intense activity in both layers of epithelium; the individual cells of Langhan's layer dividing and multiplying in all manners and ways, whilst the syncytium can be seen everywhere throwing out large complex processes of a similar structure to itself. It cannot but be considered, from the appearances thus presented, that the origin of at least this tumour has been from the epithelial layer of the villi.

In further investigating the origin of the so-called deciduomata in general, one must naturally turn to an examination of the structure of myxomatous chorion, a condition with which it seems to be closely allied, as shown by the fact that of the ninety cases of deciduoma recorded, forty-nine followed the expulsion of this variety of mole. And if it be kept in mind that myxoma of the chorion is in itself an infrequent condition, occurring only once in 1,800 pregnancies, *a priori*, it is to be expected that a connecting link may be found between the normal villus of the young placenta and the growth in question. In this reasoning one is not disappointed, for microscopic examination of so-called myxomatous villi demonstrates this abnormality to be due to an intense activity in the syncytium and, to a lesser extent, in Langhan's layer, by which rapid proliferation and the formation of new villi is accounted for (fig. 12). It will also be noted that there is an extraordinary vacuolation of the syncytium. As one would naturally expect, a result of this excessive activity in the epithelial layers of the villi is an

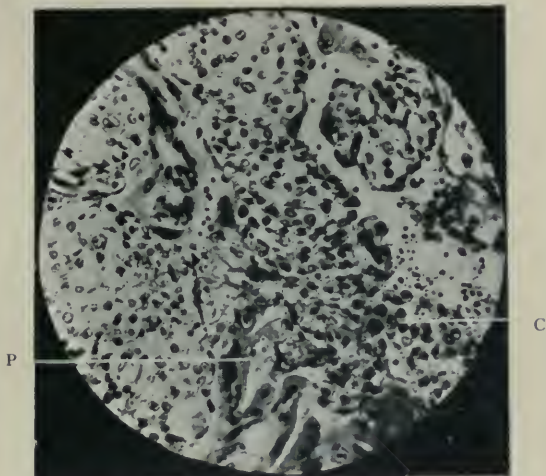


FIG. 9.

Pulmonary metastasis from Dr. Teacher's case, showing both varieties of cellular elements. (P) Protoplasmic processes. (C) Individual cells.

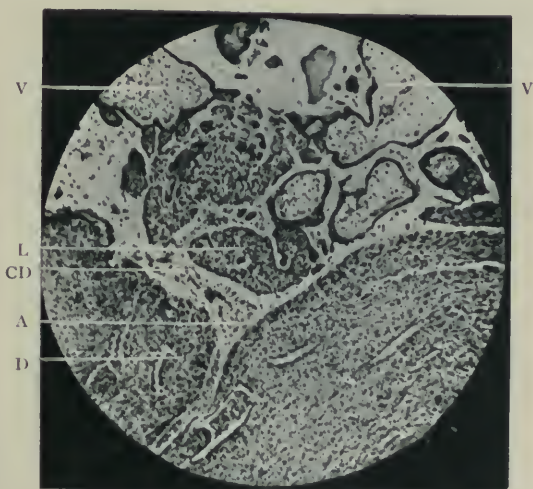


FIG. 10.

Normal placenta, sixth week. (CD) Chorio-decidual space into which (A) vessel opens by dilatation, see endothelial lining. (V) Villi with intense proliferation of Langhan's cells. (D) Decidua. (L) Protoplasmic multinucleated masses. From a specimen of Dr. Gulland's.

increased aggressive action of the villi on the surrounding decidua and a deeper penetration into its substance. In some instances, as is well known, this may be so extreme that the villi not only travel through the entire thickness of the decidua, but penetrate the muscular wall of the uterus, and give rise to spontaneous rupture or peritonitis ; or in other cases pass into the blood stream and give rise to metastases and pulmonary embolism.

It is no mere fancy, then, to argue that, under certain conditions, villi with actively proliferating epithelium may penetrate the muscle wall of the uterus, and in this situation, by continued activity of their epithelial coverings, give rise to the new growth we are now considering. This condition is certainly more likely to result from a myxomatous mole pregnancy where the villi are specially active, and more prone to overcome the resistance of a normal decidua, but it is also possible, through a weakness in the decidual defence, that the villi of a normal pregnancy may reach the muscular wall of the uterus, and there continue in a state of activity, and give rise to an epithelial growth. The chain of evidence in favour of this new growth being of epithelial origin has, to my mind, no weak link ; the structural appearances, the physiological prototype of the young villus, and the interesting association with myxoma of the chorion, which it closely resembles anatomically, physiologically, and pathologically, all serve to prove that the growth is of epithelial origin—at least, so far as concerns the case under our immediate notice.

From the appearance presented by the specimen before us it must be evident that the term deciduoma is quite untenable. One is therefore constrained to consider whether we have to deal with an entirely different neoplasm from that originally described by Sanger in 1889, the designation of which has been adopted by many other observers, or whether we have to deal with a similar growth whose histogenesis is differently considered. Sanger has depicted (in drawings) cells bearing the spindle-shaped appearance of

decidual elements, and there is also shown a slight inter-cellular fibrillar stroma. At the same time, however, he described large multi-nucleated protoplasmic masses, which have all the appearance of being of syncytial origin. If this be so we have a tumour derived from connective tissue (decidua) and epithelium (syncytium) ; in other words, a mixed sarcoma and carcinoma, which is improbable ! Nay, more, if the latest histological descriptions of the origin of the syncytium be right, which I personally, from my own investigations, have no doubt of, viz., that the syncytium is of foetal origin ; according to Sängér, not only have we to deal with a mixed tumour as regards structure, but the individual elements are derived from different sources, foetal and maternal. It is possible, therefore, that in Sängér's specimen the so-called decidual elements are merely the cells of Langhan's layer elongated and transformed by pressure, as shown by Teacher in his most able and complete description of a similar condition. Indeed, from the appearances presented by almost all succeeding observers one cannot help but maintain that the cases show a certain uniformity of structure which suggests a coincidence with the appearances presented in my case, whatever their origin may be considered to have been. All the earlier recorded cases suffered from the absence of chorionic villi, and naturally the origin of the cells was more or less hypothetical until Marchand was able (from a case which showed villi with actively proliferating epithelium) to demonstrate the origin of the malignant elements from these epithelial layers. The appearances he demonstrated are identical in every detail with the case I have described.

Sängér's theory, that the new growth arose from placental tissue, and was a decidual sarcoma, at once gave rise to much discussion and diversity of opinion. The essential characteristic of the neoplasm asserted by him—viz., "that it owed its origin to an immediately pre-existing pregnancy," was at once assailed by some observers who considered the growth to be an ordinary sarcoma. In support of this opinion the

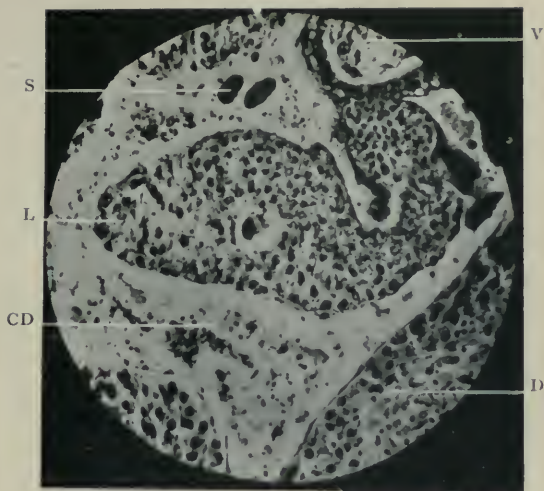


FIG. 11.

Normal placenta, sixth week. (V) Tip of villus. (D) Decidua. (L) Proliferating cells of Langhan's layer. (S) Multinucleated protoplasmic masses. (CD) Chorio-decidual space lined by endothelium. $\times 200$.

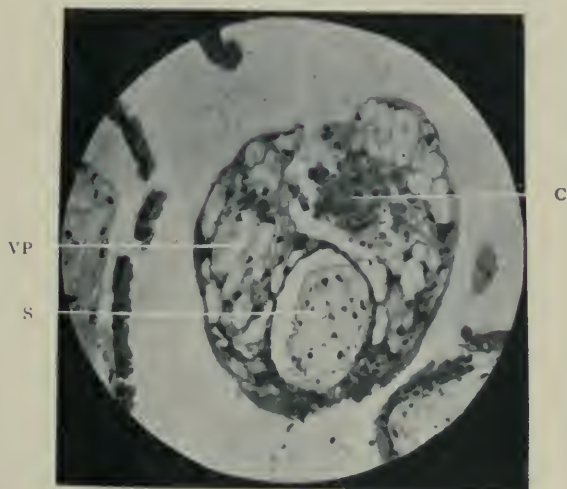


FIG. 12.

Myxoma of chorion. Transverse section through small villus, showing (S) retracted stroma of villus. (VP) Enormous hypertrophy and vacuolation of syncytium. (C) Proliferating cells of Langhan's layer. $\times 200$.

following arguments were adduced :—First, pregnancy could not be proved to have pre-existed in each recorded case ; secondly, sarcomata of similar structure with multinucleated masses were known to occur, and were demonstrated by Eden and Kanthack from a tumour of the testicle ; and, thirdly, the rôle of the malignant cells corresponded with those of a sarcoma in so far as they tended to be disseminated by the blood stream. Each and all of these arguments may be fully met. In the first place, though it cannot be proved that all recorded cases had immediately previously been pregnant, neither can it be proved that they were not ; in fact, as yet no deciduoma has been described as occurring without the child-bearing period.

As regards the structure of the tumour, though it must be admitted that multinucleated masses are frequently met with in sarcomata, as yet in no other new growth but the deciduoma have there been shown branching reticulated processes of protoplasm as seen in fig. 7.

The rôle of the malignant cells in their dissemination by the blood stream, on first impressions disposes one to consider that we have to deal with a growth of connective tissue origin, but if it be borne in mind that the special physiological feature of the chorionic epithelium is to burrow into blood spaces, an extremely strong argument is adduced as to the epithelial prototype of the tumour in question. Further, as has been shown by Teacher, there is undoubted evidence of lymphatic infiltration also. The main upholders of the sarcoma theory have laboured under the disadvantage of not having observed a case with proliferating villi, and have thus had merely the structural appearances of the malignant cells to rely upon ; and if, as is well known, it is impossible to distinguish a given embryonic epithelial cell from that of connective tissue origin, arguments from this point of view must be of little value if not upheld by other influences which, so far, are wanting.

Veit, in supporting the sarcomatous origin of the growth, suggests its modification by pregnancy, but brings forward no arguments of weight in support of his theory.

Gottschalk has described the growth as a chorio-sarcoma, and believes it to arise from the stroma of the villi. So far he stands alone. His arguments on behalf of this contention are by no means powerful, and, when taken in connection with his drawings and their descriptions, do not lead one to seriously consider the hypotheses of much count.

Whitridge Williams has carefully described a case, and considers the growth to be formed by syncytium only. It is possible that in his case this may have been so, other observers, such as Nové-Josserand, and Lacroix, having described similar appearances. I have also noted in certain sections of my tumour a total absence of individual cells where the syncytium alone seemed actively poliferating.

Marchand, Gebhard and others have described tumours in every way identical with my own, and unhesitatingly ascribe the origin of the malignant cells to both layers of the chorionic epithelium. In this Teacher fully coincides, though in his case there was no evidence of villi in the tumour.

With such an array of divided opinions as regards the origin of the growth it is only to be expected that a universally accepted nomenclature should be impossible. The current of opinion of the most recent observers and authors on the subject, with the exception of Veit, seems to be towards its epithelial formation. But, again, a generally accepted nomenclature is frustrated on account of the vexed question of the origin of the syncytium from maternal or foetal structures. According to Gebhard, who believes in the maternal origin of the syncytium, the growth is a mixed carcinoma of maternal and foetal structures; while Marchand, who maintains that both epithelial layers of the villus are foetal, designates the tumour as a chorio-epithelioma. In this latter view I most unhesitatingly acquiesce, and agree with the opinion expressed by Hart and Gulland, and Peters, in their convincing and exhaustive works on the development of the placenta. From personal investigation I have based my opinion on the following grounds:—

1. The absence of syncytium everywhere, except in close relationship to villi, as, for example, its absence on the decidua vera, and the decidua lining the uterus in ectopic gestation.

2. Its absence in the intervillous portions of the chorion.

3. The absence of general syncytial change in the glandular epithelium.

Analogies from demonstrations of its maternal origin from the placenta of lower animals must be considered fallacious, when one recollects not only the absence of uterine menstruation in such, but also the variations in similar types of animals themselves.

The designations of the growth, therefore, which to my mind seems most acceptable are those of Marchand and Kanthack, viz., chorio-epithelioma and trophoblastoma, respectively—a nomenclature which, at least in my case, seems correct and conveys to the mind the true character of the neoplasm.

CLINICAL FEATURES.

From a clinical standpoint the disease may be said to show itself in the majority of instances by the appearance of extremely profuse intermittent uterine hæmorrhages, during the intervals of which there is usually a slight sero-sanguinolent ooze. These symptoms occur in most cases within a few weeks after the gravid uterus has been emptied of its contents, and more particularly should the gestation have been a myxomatous mole. In a few cases (Löhlein, Runge, and others) the bleeding has not been noticed for many months after labour or abortion, but it is doubtful whether in these instances the patient had not, in the interval, been again pregnant and cast off an early ovum. As a rule the hæmorrhage is so severe as to reduce the patient to a condition of intense anæmia, and may even be immediately fatal. In due course there is an extremely foetid watery discharge, which may be associated with toxic constitutional symptoms of a septic nature, and give the patient a distinctly

cachectic appearance. As the disease advances metastatic deposits may be found in the vagina, cervix, or surrounding pelvic structures, and in many instances death is directly due to pulmonary embolism from the dissemination of the malignant cells through the blood channels.

Naturally, as a disease associated with pregnancy, it is met with only during the child-bearing period of life, a point of considerable importance in the histogenesis of the tumour. A case at the age of 56 is recorded by Meyer, but here an undoubted myxomatous mole was expelled four months previously, and, as is well known, myxoma of the chorion is specially prone to occur in elderly women when procreative activity is on the wane. The youngest case recorded was in a girl of 17, the growth arising from a tubal pregnancy (Marchand). The average age of the cases recorded is 31 years.

In a few cases only has the growth followed a full-time pregnancy, the great majority being noted after abortion and myxomatous chorion. This is a clinical feature which might be inferred from a study of the histogenesis of the tumour, as it is an accepted fact that in the later months of pregnancy there is little or no activity in the epithelium of the chorion.

Diagnosis.—In most instances, as has been shown, there are usually sufficiently early marked symptoms associated with the disease to warrant a suspicion of its presence and indicate a careful investigation. Thus the history of a pre-existing pregnancy (specially a myxomatous mole), followed shortly by profuse intermittent hæmorrhages and a persistent watery discharge, should in all cases demand not only a thorough curettage of the uterine cavity, but a careful microscopic examination of the removed fragments.

Should no evidence of malignant disease be found in the scrapings, and the hæmorrhages return, thorough dilatation of the uterus must at once be carried out, and the cavity explored by the finger. The growth in the earlier stages may be mistaken for an œdematous fibroid nodule, but from

the fact that it has a friable, ulcerated area which bleeds freely it can be easily distinguished. Portions of the tumour can be detached by the finger nail, and examined microscopically, but this is almost unnecessary, as the presence of the growth is sufficient to warrant a correct diagnosis. Microscopical examination of the scrapings will show large, nucleated cells, and multinucleated protoplasmic masses (fig. 1) ; the latter are pathognomonic.

Cases with the marked symptoms recorded offer now no excuse for mistaken diagnosis ; recurrent hæmorrhages after curetting must not be temporised with, and repeated curetting is to be earnestly deprecated. Unfortunately, however, there are recorded a few cases in which through the depth of the origin of the growth in the uterine wall, hæmorrhage as a symptom is totally absent, as in the case described by Whitridge Williams, where the first evidence of the disease was metastatic deposits in the vagina and lungs. Early diagnosis of these cases seems to be impossible, there being no uterine or pelvic discomfort to indicate any abnormality. Fortunately such cases are rare, and there are but few in which that prompt diagnosis cannot be made, which is so essential for the efficient treatment of the disease and upon which the patient's life hangs.

Prognosis.—Without treatment of a radical kind the prognosis is absolutely fatal, death occurring in the majority of instances within six months. By reason of this rapidity it may be considered the most malignant of all known tumours. A few cases have been more chronic in their course, as for example in Löhlein's successful case in which the uterus was not extirpated till more than a year after the symptoms developed. The causes of death are excessive hæmorrhage, septic absorption and the development of metastases, which, in the majority of instances, are pulmonary.

Vaginal metastases are also frequently present. The presence of metastatic deposits, though seriously affecting the chances of the patient's recovery, are not necessarily of

fatal moment. Thus, in the cases of Lonnberg-Manheimer and Freund, vaginal deposits were present, yet the patient remained well after hysterectomy. Cazin found a metastasis in the right ovary, yet the patient was well three years after removal of the uterus and ovary.

Authentic cases have been recorded by Chrobak and Von Franque, where, even in spite of evidence of pulmonary emboli as shown by hæmorrhagic sputum and other symptoms, complete recovery has eventually taken place. These cases are undoubtedly difficult to understand, but may, I think, be accounted for by the peculiar character of the malignant cells, which, as examination of my tumour clearly showed, grow only in free circulating blood and rapidly degenerate and die in extravasated blood. It is possible, therefore, that the cells in the metastasis may, from giving rise to free extravasations cut off that free circulation which is so essential for their continued activity, and rapidly die. In this way only can Veit's interesting case be accounted for, where a secondary deposit developed in the right iliac fossa, and eventually disappeared. After complete removal of the uterus, before metastases have formed, the prognosis is distinctly favourable. I have been able to collect thirty recoveries out of the entire ninety cases I can find recorded, many of which were not operated upon.

After complete hysterectomy secondary growths have been known to form, and the patient die six to nine months after the operation, as in Morison's case. These have, however, all been operated upon after a long period of temporising in the form of curetting, uterine plugging, and cauterisation. Naturally, the earlier a case is operated on the better the chances of success. There can be little doubt, therefore, that through profiting from the mistakes of others, to whom, as pioneers, we are much indebted, the diagnosis will as a rule be much more easily made, and prompt radical measures earlier pursued.

Treatment.—This may be summed up in the word hysterectomy, anything short of this is culpable. Repeated

curetings cannot be too severely deprecated, as has already been stated when referring to the diagnosis. Many recorded cases are a warning against indecision and delay. These are found among the earlier cases, and are excusable; now, however, with the light of experience, there is no excuse for similar records in future.

I must not conclude without expressing my deep sense of indebtedness to the Edinburgh College of Physicians' Laboratory, where I have been permitted to make these investigations, and from the officials of which I have derived much valued help, and in particular to Mr. Hume Paterson for the accurate photo-micrographs he has made.

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The PRESIDENT said that the demonstration and excellent illustrations of Dr. Haultain elucidated one of the most vexed questions in gynæcology, on which authorities were not yet agreed. The most recent view appeared to be that it must be regarded as a malignant chorio-epithelioma, the typical or atypical nature of which depended upon the character of the chorionic epithelium, and its remaining in its form of early pregnancy, its alliance to other malignant tumours being dependent upon transitional conditions. Personally, he believed in deciduoma malignum as a distinctly malignant tumour, characterised by typical etiological, pathological, and clinical features, and this was the view generally held on the Continent. He had not met with a case in his own practice. The characteristic specimen which he had shown at the Society was one that he had seen removed by Professor Martin, in Berlin.

Dr. EDEN said that he thought there was grave doubt whether all the ninety-one cases which had been recorded as cases of deciduoma malignum could bear close examination. The fact was that this new and fascinating pathological theory had aroused the keenest interest in Germany, and there had been some extravagance resulting from the general enthusiasm. This extravagance was evident in a case recorded by Schmorl, in which a malignant vaginal tumour was described as deciduoma malignum arising from inoculation of a vaginal wound with placental tissue, no uterine growth whatever being discovered. But there was evidence that opinion in Germany was becoming steadier. In the last volume of Veit's *Handbuch der Gynäkologie* the editor expressed his conviction that the chorionic theory was untenable, and that the disease was in reality sarcoma modified by the occurrence of pregnancy. With this view he was personally in full agreement. With regard to Dr. Haultain's case, Dr. Haultain himself admitted that the growth possessed the broad characteristics of a sarcoma. The only structures in it which were peculiar were the large bands and loops of nucleated protoplasm ; the other

features might occur in any rapidly growing sarcoma. But from the presence of these structures to the theory of deciduoma malignum was too wide a step for the pathological theorist. The relation of the villi to the growth might be equally well explained by the assumption that they were retained, and that the disease subsequently invaded the part of the uterine wall where they were situated. In scientific questions the simplest explanation should always be adopted in preference to the more complex ones, and the chorionic theory of deciduoma malignum formed so novel a departure from established pathological principles that we were justified in asking for much more conclusive evidence in its favour than had yet been advanced.

Dr. HERBERT SNOW said that the eloquent exposition of Dr. Haultain must not blind them to the obscurity of the subject. The question was whether a deciduoma malignum was a quite different kind of thing to any other malignant tumour. They had the broad clinical fact that malignant disease could follow pregnancy, especially in the cervix ; but this fact did not require a special nomenclature. Was deciduoma malignum actually more than a name ? The fallacies of microscopical examination must be remembered. He could not help thinking that Dr. Haultain's explanations of the appearances were a little idealistic. Apparently some of the cases described as deciduoma malignum were not malignant at all.

Dr. WILLIAM DUNCAN observed that they had all learned something, and the pains that Dr. Haultain had taken to make the demonstration clear deserved all credit. But he thought that they should deprecate making a special pathology for diseases of the uterus ; this had kept gynæcology back many times in the past. Thus he had heard of a corroding ulcer of the os uteri, said to be quite different from any other kind of ulcer found in the body ; it was really either malignant disease or lupus. All the cases of deciduoma he had seen described appeared to

him to be nothing more than sarcoma coming on in a pregnant uterus, and he hoped that the name "deciduoma malignum" would soon disappear.

Dr. HAULTAIN, in reply, thanked the Society for the attention they had given to his demonstration. He knew, of course, that it was a vexed question. The first point to decide was, what was a sarcoma cell? On looking at a single cell they could not say whether it was a sarcoma or an epithelioma. And the difficulty was increased by the fact that the cells from which deciduoma malignum arose were embryonic, and were not found in adult life. He also hoped that the term "deciduoma malignum," which was a bad one, would be given up, but "sarcoma" was even worse, and he should like to see the name "chorio-epithelioma" adopted.

GENERAL DISORDERS, ORIGINATING IN DISEASE OF THE FEMALE PELVIC ORGANS. By Dr. MENDES DE LEON, of Amsterdam.

Mr. PRESIDENT AND GENTLEMEN,—Although much honoured by your invitation to read a paper before this Society, it was long before I could make up my mind to accept it, being fully aware of the great difficulty in finding a subject worthy of detaining your attention. As a faithful reader of your admirable journal I cannot doubt that every topic of interest has been already discussed, that all scientific news reaches this important centre from all parts of the medical world, so that I do not for one instant flatter myself my communication will possess the interest of novelty, and merely propose to lay before you some results of my own experience in a field of investigation which has had its ablest explorers among yourselves.

Although it may be safely averred that the practice of specialising in medical science has been daily gaining favour for the last twenty-five years, and that it is a step in the right direction, we must not wholly forget that it is not always without its disadvantages.

Constant concentration of all our energies on the study of one particular organ may, to a certain extent, be prejudicial to the demands of the general constitution.

We become one-sided in our views, and think, like Mephistopheles, we can "*Alles curiren aus einem Punkt.*" On the other hand it will be conceded that the (general) practitioner will most likely fall into the other extreme—thereby neglecting to pay due attention to the morbid condition of a particular organ, in which often resides the cause of general ill-health.

For it is not with man as with some lower animals, where the separate organs exist independently (to a certain extent) of each other. On the contrary, it is of vital importance to a generally healthy condition that each and every organ should be in good working order.

This being true for the physiological functions, it is almost equally so, although not so easy of demonstration, with regard to pathological processes, and though it often occurs in cases under observation that certain affections remain for some time limited to one particular organ, it will nevertheless be found that ultimately the whole system suffers, through some reflex or more direct action.

There is no necessity to insist upon the fact that the conditions of the generative organs in woman, which even in good health have so strong an influence on the whole constitution, should, when affected, awake sympathy in distant organs, especially when taking into account the modes of innervation.

We are not quite certain by which ways the reflex action leads from the internal sexual organs to distant organs, although it is certain that the sympathetic nervous system is an important factor. It is universally recognised that the whole genital system is innervated, particularly by branches originating in the plexus spermaticus and the plexus hypogastricus. By the first-mentioned, ovary and tube are chiefly supplied. The second form on both sides of the lig. latum an important network of nerves, the plexus utero-

vaginalis, where also congregate smaller branches of the plexus spermaticus, continuing its course through the layers of the lig. latum to womb and vagina.

The sympathetic nervous system must, therefore, be considered as the track along which is flashed the irritation originating in uterus and appendages, in an afferent direction.

It is now seven years since I first endeavoured to show, statistically, the very frequent occurrence of affections of the reproductive organs in woman. Since then there has been ample proof of my conclusions being correct. How can it, indeed, be otherwise, if we consider the enormous stress brought to bear on the internal sexual organs, not only by their complicated functions, but also by the many noxious influences to which they are exposed, and in the first place the fact that the peritoneal cavity is by way of the ost. abdomin. tubæ in continual contact with the outside.

From these facts we are naturally led to conclude that in all cases where the morbid symptoms do not point decisively to definite affections of remote organs, they must be investigated anew, from a gynæcological point of view, and similarly, when the hitherto adopted therapy, based on the conclusion that distant organs had been solely affected, has not led to satisfactory results, gynæcological treatment should follow.

These considerations gradually gaining ground and recruiting more and more adherents in the medical profession as time goes on, it could only be expected that gynæcology should conquer, as it has done, an important rank among the independent sciences.

We have only to be careful that a *trop de zèle*, or misplaced optimism, should not lead to overstepping the limits of our field of action.

This is why I wish to bring before your notice that anomalies of the pelvic organs, although insignificant *quoad functionem* and *quoad vitam*, may nevertheless be the cause of serious disturbance to the general state of health. These

disturbances, which I have already qualified as *distant symptoms*, are generally to be recognised by nervous complaints, functional disorders of the nervous system, which very often, through summary diagnosis, cause the patient to be unjustly branded as hysterical.

To my great satisfaction I see my opinion on this particular side of the question viewed in the same light, and even expressed in almost the same words by Dr. Macnaughton-Jones, who writes in his interesting paper on uterine reflexes ; “ It is something more than injustice to her (a woman) if we deliberately and complacently ignore the influence that such local disease exerts in exciting morbid impulses in her central nervous system.”

In order to elucidate this question, I propose to give a brief sketch of what has been written latterly on the relationship of genital affections with disorders of other organs, adding the result of my own experience.

To take the bull by the horns, we will start by discussing the abnormalities of the nervous system. These have long constituted the bone of contention between the specialist and the general practitioner, and a cause of dissension among specialists themselves, gynæcologists and neuropathologists alike. It has been long an established fact that the genital organs, even in the exercise of their normal functions, are frequently the agents of psychical disturbances. We know all about the psychoses of pregnancy and of the puerperal condition, and are aware that the climacteric period can be, with predisposed persons, the time of life when neuroses or even more severe psychical troubles arise.

It is not even necessary to be one of the medical profession to note the powerful influence exercised by sexual life on the nervous system of women.

The consequences are often too serious to be set aside. They govern both intimate and social intercourse. The subject has engrossed the attention of novelists, at least on the other side of the Channel ; has taken possession of the

stage with, to my thinking, disastrous results with regard to healthy physical and moral life.

It follows naturally that sexual suffering should demand a still greater degree of attention in the pathogenesis of psychoses. The only difference of opinion exists as to the frequency of its occurrence.

Neurologists and gynæcologists take opposed views, and on both sides there is much exaggeration to be regretted.

Whilst the neuropathologist will scrupulously avoid all local treatment, for fear it should aggravate the psychical troubles, many gynæcologists exaggerate the importance in one or other form of sexual troubles regarded in the light of an etiological symptom.

Hegar, in his excellent paper on this subject, gives the following *résumé* of his observations:—

“Der Eine hat guten Erfolg mit seiner das Allgemeinbefinden, und das Nervensystem allein berücksichtigenden Behandlung und der Andre heilt die anscheinend sehr schweren Leiden durch einen Ring oder einen vielleicht ungefährlichen operativen Eingriff.

“Jeder beurtheilt nur die andre Disciplin oder deren Vertreter nach solcher Vorkommnissen, und bedenkt nicht dass er nur die von dem Andren *nicht* gebesserten Kranken zu Gesicht bekommt, während er die Geheilten nicht sieht.”

Investigations made by several writers on the frequency of genital affections among the insane vary considerably as to the result.

Eisenhardt gives the following:—(“Die Wechselbeziehungen zwischen internen und gynæk. Erkrankungen”) In 100 cases of psychosis Claus found 15 with genital abnormalities; Kerkley, 27; Gnauch and Ripping, 33; Hertz, 66; Rohe, 74; Danillo, 80, mostly cases of chronic inflammation and displacement of the womb. The nervous disorders were principally epilepsy, hystero-epilepsy, hypochondria, hysteria and neurasthenia.

Setting aside the probabilities of accidental co-existence of causal nexus in the cases above mentioned, the figures

seemed to me so extremely divergent that I could not rest without investigating for myself.

I was fortunate in finding a wide field at the Amsterdam Lunatic Asylum, which was kindly placed at my disposal by the director.

The result was, however, not wholly satisfactory, owing to the difficulties of examination. Many of the patients could not be submitted to it without the aid of anæsthetics, and of course it would not do, for the sake of gratifying scientific curiosity, to place under chloroform either the recalcitrants or virgins with narrow introitus.

The Asylum numbers 60 female patients, 41 of whom seemed to be suitable subjects for this examination.

Of these, 13 were intact virgins, who could not easily be submitted to bimanual examination, which made it difficult to discover possible disorders of the adnexa, and rendered the use of the speculum impossible. One had acute vulvo-vaginitis, and with the others I found a small ante-flexed uterus.

There were also 7 cases of senile atrophy, remarkable for their existence at a comparatively early age. (One of the patients was 36.)

In the 21 remaining cases were found 4 displacements and 9 chronic inflammatory diseases of the uterus or appendages; with the 8 others no genital disorder was discernible.

In calling attention to these facts it is not my purpose to draw conclusions. In order to do so they would have to be substantiated by longer observation. I only wish to point out that in many instances there was marked correlation between the genital and mental disorders, although in others it could be attributed to casual complication.

As a general rule, it can be stated that psychic or nervous troubles arising from disorders of the sexual organs have only been observed in predisposed persons, *i.e.*, those with neuropathic tendencies, or else hereditary taint, and are rarely if ever found with a thoroughly healthy condition.

The local symptoms that precede neurosis are, in the first place, continual hæmorrhage and purulent discharge, also nerve irritation and neuralgia caused by pressure or stretching ; these are, therefore, the symptoms observed in tumours or exudates, but more than all in uterine displacements.

An inquiry into the nature of the influence exercised by gynæcological treatment in cases of psychoneurosis is of great importance. It is generally considered that constant manipulation of the genitalia, particularly massage, ought to be avoided in cases of nervous or hysterically-inclined persons.

To my thinking, the psychic influence of this treatment has been judged erroneously. Personally, I am not an advocate for gynæcological massage, the result being too uncertain, and the mode of treatment painful for the patient and fatiguing for the physician, whilst it also takes up a great deal of time, although I do not unconditionally subscribe to the assertion that it produces hysteria.

But neither do I admit that, as some gynæcologists advise in these cases, total extirpation of the womb should be resorted to as a last resource. Why ? I ask ; if treatment of the diseased organs only serves to aggravate the original disease instead of affording relief, how can it be thought that *total ablation can cure* it ? Can any one seriously entertain the idea that removal of the uterus can cure hysteria ?

Statistical researches have been instituted in England and America concerning the occurrence of psycho-gynæcological operations, with the following results :—Savage found, after 500 abdominal sections, four cases of mental derangement. Kinkley only one in 596. Investigation by Roke (*New York Medical Journal*, October, 14, 1893) showed the more important fact that in all the lunatic asylums of the United States and the English colonies, in the course of ten years, only 25 patients were registered who had become insane after a gynæcological operation. To Czempin Ebell's observation that perineo-plastic operations are

liable to bring about psychoses, I can but add the result of my own experience, which shows in 85 perinaeorrhaphies only 1 case with this complication. This occurred where curettage had been previously practised, necessitating the use of anæsthetics twice in four weeks' time. As for the rest, in rather a large number of benign and also more serious operations, I have never observed the appearance of psychical troubles.

On the other hand, recovery from neurasthenia has often resulted from gynæcological interference. It would take up too much of your valuable time to make any reference to the numerous bibliographical communications on the subject, and it will be sufficient for my present purpose to remind you of the wordy war that still continues to be waged on the subject of the indications and prognosis of castration for psycho-neuroses.

Battey and (about at the same time) Hegar were the first who published the results of their experience. Since then casuists are continually increasing in number.

One hundred and forty-seven cases have been tabulated by different authors, showing eighty-two cures, twenty improved conditions, twenty-five with no improvement, six worse since the operation, and fourteen where the result had not been known. Personally I have but once practised castration for a case of hystero-epilepsy, but although the operation was successful and the patient made a good recovery, the final result was not satisfactory, as she had a fit once afterwards, shortly before the menses, which continued pretty regular, notwithstanding the removal of the adnexa.

In the greater number of my cases I have seen mental troubles disappear after gynæcological treatment, but will only refer to the following, as being the most typical :—

Miss v. H., aged 37, suffered many years from chronic oöphoritis and peri-oöphoritis dextra, causing violent pains, emaciation, and all the typical symptoms of neurasthenia. Careful local treatment had been of no avail; the patient,

a highly intellectual person, became worse and worse, her condition degenerating into complete melancholia, until she only longed for an end to her unhappy and useless life.

On her own express desire, as a last chance of regaining her energy, castration was practised February 17, 1890. Eleven months later she wrote to tell me she felt thoroughly well in health and spirits, and, as nurse at a hospital, was able to undertake all her duties, even those making a demand on muscular strength.

With regard to its etiology, Basedow's disease should be mentioned among the foremost of nervous maladies that stand in relation to genital disorders.

It attacks women four times oftener than men, generally between the ages of 16 and 30, and frequently occurs as a complication with pregnancy. Menstrual disturbances constitute one of the principal symptoms, and it has often been observed in cases of amenorrhœa that the characteristic symptoms of the primary illness, exophthalmos, struma, and tachycardia, increase with the return of the menses. Some writers, for instance, Eulenberg and Mathieu, have observed the occurrence of morbus Basedowii after a gynæcological operation, but, on the other hand, a greater number of recoveries are due to gynæcological interference, in cases where it has been coexistent with genital disorders.

To these I can add a case of my own, where, in view of the result obtained, there could have been no doubt whatever as to the causal relationship.

Mrs. de H., from Medan, was sent to me with symptoms of chronic endometritis, and subinvolutio uteri, post abortum; added to these, the symptoms of morbus Basedowii were beginning to make their appearance, so that her return to Europe could be no longer delayed. After curettage in October, 1893, all bad symptoms had disappeared in the space of a few months. Since her return to India I received information that she had been confined of a living full-grown child.

In another case of fibro-myoma uteri I found also considerable thyroid enlargement.

The patient came under my charge, and I removed by laparotomy, March, 1892, a large myoma, quite filling up the true pelvis. Two days later the struma was much smaller, and, since, there has been no recurrence. Affections of the peripheric nerves are also found associated with sexual disorders. Ischias, intercostal-neuralgia, hemicrania, &c., are not only founded on hysteria; they also appear sometimes as characteristic reflex-phenomena.

Odebrecht communicates a case of trigeminal-neuralgia which disappeared subsequently to ventrofixation, after pessaries had been previously applied in vain.

Foremost among the organs that, either by direct or reflex action, are liable to be affected by sexual disorders is the eye.

The pathological changes in this organ, which are sometimes due to disturbances of the circulation and sometimes purely functional, consist, in the worse cases, of irido-choroiditis, and can sometimes lead to atrophy of the optic nerve. Chronic anæmia, induced by menorrhagia or metrorrhagia, therefore principally the result of neoplasms and pseudo-endometritis, may also be the cause of dire misfortune to the organs of sight, either in the form of accommodational disturbances or inflammatory processes, amblyopia or amaurosis, whilst optic-apoplexy, even solution of the retina, iritis, and keratitis have been found in association with abrupt suppression of the menses. I have in my practice numerous cases of choroiditis, iritis, episcleritis, where on evidence of the therapy that had been employed, the origin could be traced to chronic endometritis.

With regard to circulation, acceleration of the heart-action is the most prominent feature; I have frequently observed troublesome palpitations give way, on recovery from chronic endometritis. Structural changes of the heart can also be accounted for by the existence of genital disorders.

A well-known sign of myoma uteri is the brown atrophy

of the cardiac muscle, which has been accounted for by the decrease of hæmoglobin in the blood, and whereby the muscle is condemned to harder work with less nourishment. Next come disturbances of the digestive organs, in the list of evils to be brought home to sexual disorders. Hildebrandt is right when he asserts :—“Bei magenleidende Frauen sollte man füglich wegen der imgemeinen Häufigkeit in welcher Magenleiden Folgen von Erkrankungen des Uterus sind, niemals eine Untersuchung der Genitalien unterlassen, auch wenn sonst keine Symptome auf eine Erkrankung der Geschlechtsorgane hinweisen.”

Gastric disturbances are mostly brought about by reflex action, and are chiefly observed with nervous persons. According to Graily Hewitt, 14 per cent. of the sufferers from uterine disorders complain of troubles of the digestive organs, the minor symptoms being a feeling of heaviness on the stomach, pains, nausea, &c. In many of these cases the symptoms become aggravated to such an extent that, even if life itself is not threatened, it becomes a burden to the sufferer.

The lightest food cannot be retained ; emaciation and cachexia set in, bringing on mental depression that sometimes ends in true melancholia.

In none of these cases was any perceptible change in the secretions of the stomach observed.

Neither the secretion of hydrochloric acid nor that of pepsine has been in any degree modified. The trouble originated in affections of the endometrium, or with displacements, particularly with retroflexion, and numerous are the recoveries due to timely and efficient treatment of the primary disorder. I will now only mention one case, which seems to me particularly characteristic.

Miss v. d. F., aged 39, came to my clinique to be treated for uterine hæmorrhage. She had always menstruated overabundantly ; since two years profusely and in advance, and for the last year she was continually losing blood, the menstrual type being still recognisable by exaggerated

bleedings every three weeks. In August violent flooding, which greatly reduced her strength. Between times she had a profuse greenish watery discharge. Great suffering was caused by a very bad state of the digestive organs, which she dated from her 18th year, when, after a fall from a ladder, she had been carried home senseless. Ever since she had been unable to retain anything but liquid nourishment, and had occasionally vomited blood. On examination the uterus was found movable and unenlarged. Curettage on August 15; removed a quantity of friable mucous membrane. The uterine cavity was then stuffed with iodoform gauze, and treatment continued by cauterisation with chloride of zinc. The scraped-out membrane was microscopically examined, and found to contain, besides portions of healthy tissue, typical cancerous gland-tissue.

The entire movability of the uterus seemed to give the ideal indication for total extirpation, although the severe digestive troubles gave matter for serious deliberation. As long as she had been in the clinique the patient was unable to retain any food, not even milk or eggs, which were usually vomited during the night or towards morning in the form of a foul-smelling, frothy mess. The tongue was white and furred, and the appearance of the patient enfeebled and cachetic. A complication with carcinoma ventriculi was naturally thought of, but there were no symptoms of a tumour in the region of the stomach, neither were there traces of blood in the vomit. The difficulty lay in solving the problem of etiological co-relation between eventual cancer of the stomach with the evidently young carcinoma of the uterine mucosa.

After mature consideration I concluded for the total extirpation per vaginam, which I performed January, 1894.

The patient made an excellent recovery, and was quite well when she left the clinique at the beginning of February. Remarkably enough, there had been no more vomiting since the operation; not only milk and eggs were retained, but a careful experiment with more substantial food was successfully sustained.

Desirous to know the ultimate result, I wrote to the family doctor, who replied in June, 1896, to the following effect :—"Miss F. has been in good health ever since her return home, and has not required any medical assistance. I have had the opportunity of seeing her twice or three times every week for the last two years, as her mother is a patient of mine. She is looking remarkably well; all digestive troubles have ceased except occasional constipation, which is easily conquered by a mild purgative. There is every reason to trust to the non-recurrence of carcinoma, as, since the operation, not one bad symptom has appeared."

It is sufficiently obvious that frequent disturbances of the urinary excretions and secretions should occur when taking into consideration the anatomical relationship of the bladder and urethra, with the internal generative organs.

Leaving aside the numerous direct troubles, such as urine retention in cases of tumours or retroflexio uteri gravidi, prolapsus vaginæ, with cystocele, cystitis resulting from blenorrhagic infection, and pruritus vulvæ from diabetes, we have pathological deviations in the uropoietic organs, of which some can be considered as reflex symptoms.

Tenesmi ad vesicam, as well as polyuria and anuria, are frequently observed to be symptoms of endometritis, which disappear with the disease, in the same way as retentio urinæ occurs after various gynæcological operations.

Pathological deviations of the genitalia, besides their disturbing influence on the functions of the bladder, produce anomalies of the kidney, which can be easily traced to the same origin.

Virchow first pointed out the origin of hydronephrosis in prolapsus vaginæ and hypertrophy of the portio vaginalis and supra-vaginalis uteri. Freund and Hildebrandt communicated cases of hydronephrosis resulting from the bending of the ureters in cases of retroflexio uteri.

The wandering kidney is often found associated with disease of the female sexual organs, especially displacements

of the womb. Landau has observed the wandering kidney 273 times in women to 41 in men ; and according to Sulzer's statement, 85 per cent. of sufferers are women.

The dislocation of the kidney has been ascribed to various reasons, among others, individual disposition and inappropriate clothing ; also to a decrease of the intra-abdominal pressure or rapid decrease of the fatty tissues.

The first symptom appears in persons with flabby abdominal walls, generally accompanied by relaxation of the peritoneum and its duplicates, which support the abdominal organs.

When we consider that this slackening mostly occurs after pregnancy or the removal of abdominal tumours, we have not long to seek why women are such frequent sufferers from the ren-mobile.

Thiriar also indicates causal relationship between ren-mobile and disorders of the sexual organs, and observed that after nephropexy there came a simultaneous end to menstrual anomalies and chronic inflammation of the mucous membrane, and he explains this connection by pressure from the dislocated kidneys on the veins of the spermatic plexus.

Before concluding, I would call to mind the frequent occurrence of some skin diseases under the influence of pathological deviations of the generative organs.

It is known by everyone that many women have during the menses a bad complexion and not infrequently eruptions.

Pigmentary formation, chloasma uterinum, and discoloration of the linea alba, are universally recognised among the symptoms of pregnancy. Hebra, in 1855, first called attention to the causal relation between a certain class of skin diseases and disorders of the genitalia.

Among others, he mentions a case of eczema and urticaria which was completely cured without local treatment by the removal of an inefficient pessary.

Later on, Schauta investigated, and was able to make a statement proving undeniable correlation in twenty-six

cases, where the genital disorders were mostly retroversion, chronic endometritis, salpingitis, and principally myoma uteri.

In the selection of my subject I have been chiefly actuated by the desire to make use of this opportunity to speak to you of my views on a matter I have always had very much at heart, and to express my entire concordance of opinion with Dr. Macnaughton-Jones, by whom you have been addressed in a far abler manner, and others who think with me that all the varied forms of misery, liable to be brought about under the influence of a pathological condition of the sexual organs, on the whole constitution of a woman, cannot be over-rated ; or, to quote once more Dr. Macnaughton-Jones, "All we know of the physiology of uterine action compels us to regard the uterus and ovaries as the strongest links in the chain of the woman's health of mind and body."

Nothing can be further from my meaning than to insinuate that every ailing woman should be submitted to a gynæcological examination. Far from that ; however undeniable it is that any organ may be influenced by sexual diseases, objective examination would reveal a marked difference between *these* symptoms and the symptoms belonging to primary disorders of these organs. It would never enter my head to suggest the necessity of gynæcological examination to a woman who came to me with the characteristic symptoms of gastric catarrh, or a well-defined heart disease, and even should there be evidence of a co-existent abnormality of the generative organs it might turn out to be after all a chance complication.

On the other hand, when objective examination of the distant organs and haphazard therapy have merely led to negative results, never should the importance of a gynæcological examination, *ad ultimum refugium*, be allowed to pass, even in cases where there have been no *subjective* symptoms of genital disorders.

Positive results will often be obtained by taking this

measure, after which there still remains to be solved the question of etiological relationship; and if, therefore, the abnormality that has been revealed is of a nature to legitimate local treatment, according to my conviction the answer should be a decided "yes." Now that it is universally recognised what important factors the sexual organs either in a diseased or healthy condition are in the organism of women, bearing in mind this unmistakable truth, no physician has the right to deny his patient perhaps the only chance of delivery from a burden of physical and even mental misery sufficient to poison her life. When choice lies between an operation or any other mode of treatment, it should be remembered that where there is excessive nerve-irritation, hysteria or neurasthenia, the first is preferable, when it has been proved that a short course of local treatment has not borne satisfactory results.

I have, for instance, observed the so-called uterine dyspepsia resist for months continued cauterisation of the endometrium, when curettage being tried, the desired effect was easily obtained.

Needless to add that I am always careful in drawing conclusions from first favourable results. Unfortunately enough, my patients have sometimes returned after an interval of good health with the same complaints for which they had first sought relief, although the local disorder had completely disappeared.

The cases on which my conclusions have been based concern patients that have been at least two years under observation, consequently all doubts concerning the question of causal relationship are completely removed.

I have now only to thank you for your kind attention, and hope you will have overlooked possible faults in expression due to my unfamiliarity with your language.

Dr. HEYWOOD SMITH said that Dr. Mendes de Leon's conclusions must find an echo in the experience of most of them. There was no doubt that the woman was built up around her pelvic organs, so that it was not sur-

prising that there should be so many reflex disorders associated with diseases of those organs.

Mr. CHARLES RYALL thought they must all feel much indebted to Dr. Mendes de Leon for his interesting paper. They were all familiar with the uterine reflexes, but they were apt to forget that diseases of other organs might simulate disease of the uterus and ovaries. Movable kidney afforded an example. Thus he had recently a case in which the patient complained of much pain in the pelvis and of intermenstrual pain. One surgeon advised oöphorectomy, and this was done, but she was not relieved. Then another surgeon advised hysterectomy, and this was done, but still she was no better. It was then found that she had a mobile kidney, and after nephropexy had been done she got all right. Mastodynia also was often found associated with uterine disease.

Dr. BURLEIGH-ROBINSON thought that the question of the relation between gynæcological operations and mental conditions was an important one, and he hoped that some Fellow would bring forward a paper on the subject of operations on the insane.

The PRESIDENT said that at a former meeting of the Society they had had a discussion on the relation between pelvic disease and mental conditions, several well-known alienists taking part. The subject had been studied more especially in America, and it had been shown that there was frequently a definite relation between the two factors. British psychologists were agreed that if there was uterine disease in a woman who was insane, the patient should be examined, and treatment adopted by operation or otherwise whenever this was possible. He had seen three cases in which women in a condition of insanity were operated on without any improvement following ; but others had had a different experience, and he could at least say that he had not known of a case being made worse by any gynæcological operation. There could be no doubt that, although the paper they had just heard would command universal assent,

there were still many cases of reflex disorders of pelvic origin in which the cause was not properly recognised, because the patients did not complain of symptoms referable to the pelvis. He knew that affections of the eye, ear, and larynx were very often associated with pelvic troubles, as were also rectal disorders, and symptoms of spinal and locomotor character. He thanked Dr. Mendes de Leon, on behalf of the Society, for his most interesting paper.

Dr. MENDES DE LEON, in reply, said that of course he knew that he could not exhaust such a subject as he had chosen for his paper. He thanked the Fellows of the Society for the attentive hearing they had given him. The one point on which he wished to lay special stress was the importance of not vaguely relegating to the category of hysteria patients who might be suffering from organic pelvic diseases.

ORIGINAL COMMUNICATIONS.

SOME REMARKS ON THE OPERATIVE TREATMENT OF
MALIGNANT DISEASE OF THE BREAST AND UTERUS.¹

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MR. PRESIDENT AND GENTLEMEN,—In the first place I must thank you for the great honour you have conferred upon me by inviting me to open a discussion here to-day. I feel the honour more as there are so many surgeons in this great city who could, I feel sure, fill the position with so much more credit to themselves and benefit to the members of the Society than I am able to. I come here with the more pleasure as it is just forty years ago since I set foot in this city as the first House Surgeon of the Children's Hospital when in Bridge Street, in which hospital, in conjunction with the late Dr. Bourchart, I assisted to arrange the beds and details connected with the opening of this valuable institution.

The subject I have chosen for discussion to-day is one, I trust, which is not without interest to you all, as it treats of a disease which, if not in reality, is, at any rate, credited with becoming more and more common in our midst, and whatever can be done by medical or surgical science to prevent the extension of malignant disease, or to combat it when present, must, I am sure, elicit the approbation of all. This afternoon I propose to limit my remarks to the operative treatment of malignant disease of

¹ Read before the Clinical Society, Manchester, February 21, 1899.

the breast and uterus, as at present, alas ! it is only by surgery that we can hope in any way to cure or relieve those who are unfortunate enough to be so afflicted.

There can be no doubt that want of knowledge of the manner in which cancer spreads, and the ignorance of the lymphatic system, were the causes of failure by surgeons of the old school. These surgeons looked upon carcinoma and sarcoma as one and the same disease, and did not understand that the one was of an epithelial type, while the other was of connective tissue origin ; that the one spread by means of the lymphatic system, and the other more by the capillary system. Under these circumstances it was not astonishing that they contented themselves with removing the nodule only, leaving the mammary gland, or so much of it as had not been apparently involved, *in situ*, the result being that the disease rapidly increased, and operative treatment got into bad odour with both the profession and the public, and it was not until quite of late years that, by the researches of surgeons in this country and abroad, it was recognised that the only way to deal with this disease with any hope of success was to remove not only the disease as apparent, but also, and very freely, the whole gland in which it was situated, as well as the tissues and lymphatics with their glands quite into the axilla.

To Mr. Harold Stiles² much credit is due for the very masterly paper written by him in the *Edinburgh Medical Journal*, 1892, on "The Surgical Anatomy of the Breast and Axillary Glands," in which he demonstrates that the lymphatics of the breast extend from the mammary gland first into the pectoral fascia and often into the muscle and pass from thence into the axillary glands. Later, in 1894, Heidenheim, in a paper in *Langenbeck's Archives*, demonstrated that the cancer cells of carcinoma of the breast extended sometimes very rapidly by means of their

² *Edinburgh Medical Journal*, 1892.

lymphatics into the pectoral fascia, and even into the muscle, and this, although apparently the disease might be limited to a spot quite remote from the muscle. This fact was very practically demonstrated to me in the year 1890, when I was consulted by a young lady, an actress, aged 30, of most perfect form, with full firm breast, but with a nodule in the left breast not larger than a chestnut. It was of suspicious hardness, and, although somewhat irregular in contour, yet very adherent to the gland. I told her I was of opinion that it was malignant, and if so I must remove the whole breast, but, on the other hand, it might be an adenoma, in which case, of course, I would merely remove the growth. She placed herself unreservedly in my hands for treatment, and I first cut down on the growth and demonstrated unmistakably that it was scirrhus. I removed the whole breast, dissecting off the fascia and cleaning out the axilla: notwithstanding these precautions the disease returned in the scar in less than six months. I again operated, removing the tissue and recurring disease very widely, and three months afterwards there was a second recurrence. She then adopted the Mattei treatment, with no benefit; and again came under my care, and died within a year.

This case, I think, demonstrates very clearly how cautious we should be in giving a prognosis, for at the time of the first operation I felt pretty confident that hers was a case in which we might fairly expect by a complete operation that recurrence, if occurring at all, might have been delayed for a considerable time. Contrast this for one moment with another case of a lady who consulted me in the early eighties. She was single and 60 years of age. Her left breast was a mass of scirrhus of stony hardness over the whole gland, firmly adherent to the muscles, the glands in the axilla being affected somewhat extensively, and the skin at places just on the point of ulcerating. She suffered from intense pain and want of sleep, which had reduced her strength to a vanishing point. After a careful examination

I recommended palliative treatment, which was received by my patient with much disappointment, and she pressed me to do something. Ultimately I agreed to remove the breast, at the same time warning her she must not expect much benefit, and telling the friends that the disease was sure to speedily return, and in my opinion she would die within the next twelve months. I thoroughly removed the disease, the pectoral muscle, and all tissues and glands well into the axilla, not attempting to bring the edges of the wound together excepting just at the extreme ends. The wound did not heal thoroughly for some considerable time, but she has had no recurrence and is well at the present time—twelve years after operation. In both these cases my prognosis was wrong, and yet I thought I was warranted in what I said. I have, however, since then learned wisdom and declined to give any prognosis, pointing out how impossible it is for any one to say if the disease is likely to recur or not. Yet I think these two cases demonstrate very clearly what I have over and over again emphasised, viz., that malignant disease wherever situated is much more likely to recur in persons under 30 or 35 than it is in people over 50. And I would here like to state that, although the disease may return *in situ* or in the lymphatic glands, yet by following these up and removing them perhaps again and again, ultimately it may be eradicated. I will, in support of this argument, quote the short notes of one case out of many.

I was asked to see a lady, 70 years old, suffering from recurrent scirrhus of the right breast. The breast had been removed by a surgeon of very high repute seven months previously, but the disease had speedily returned, and the same surgeon operated again, only for a fresh return to take place. I saw her then and operated and removed the nodules very freely; the disease repeatedly returned in the deep intercostal fascia and the subclavicular glands. I operated on that lady four times within eighteen months, the last glands being removed quite under the angle of the

jaw four years ago, and there has been no subsequent return, the patient being at the present time quite well. This case demonstrates, therefore, the absolute necessity of patients being advised to submit to repeated operation, and further, the necessity of their presenting themselves for examination every two or three months for at least two or three years after the breast has been removed, and should any nodule be discovered, of its being at once operated on. This is a practice I invariably adopt and have never regretted. Quite a number of cases could be brought forward by myself and colleagues in which this practice has been successfully adopted.

Now, gentlemen, this brings me to a point which is perhaps of more practical importance to the medical practitioner than to the surgeon, and that the more so as these cases nearly always seek advice from the regular medical man before consulting the surgeon. In most cases, if not in all, of operable carcinoma of the breast the medical practitioner would advise operative measures, and he would be in nearly every case met with the question "If I have the disease removed, shall I be free from recurrence?" What answer shall we give? Always, in my opinion, a most guarded one, as from what I have said it will be seen that, while the most favourable cases may be subject to speedy recurrence, yet very unfavourable cases often have immunity for some considerable period if they are not cured. We shall next be asked, "If you cannot say I shall be free from recurrence, at any rate you can tell me how long it may be before such recurrence may take place?" Again, we cannot be too careful in our answer, as it is the unguarded opinion given, sometimes too *optimistic*, at others too *pessimistic*, that brings the opinion of the profession into bad repute and makes the public sceptical. The rules that I think may perhaps be of use to us in giving an opinion may be summarised.

First as to the question of age. In those patients under the age of 35 I am sure the prognosis is considerably worse

than in the older patients, viz., those who have passed the menopause.

Then, again, as to the extent of the operation. If the disease is very thoroughly removed, in some cases a large part of the pectoral muscle, and in all the fascia and lymphatics, and their glands carefully dissected out, the patient has undoubtedly a much better chance of immunity, or at any rate latency of the disease, than those who only have a partial operation performed.

The form of malignant disease is also an important factor in our prognosis. Undoubtedly, if we have to deal with sarcoma, the risk of recurrence is comparatively small if seen sufficiently early. In cases of duct cancer, also, I consider the chances of recurrence are very much less than when a distinct nodule is found to be located in the gland. Some of the cases of soft rapidly growing scirrhus are also much more likely to return, whereas in atrophic scirrhus possibly operation may rather do more harm than good, as should the disease return, as possibly it may, it very likely may take on a more active growth, and a disease which may have lain dormant for years, or perhaps grown very slowly, might in its new form increase very rapidly and so defeat the very object which the operator had hoped to attain.

From my own experience extending over a number of years, I am convinced that many failures in the past were due to the limited extent of the operation. For many years I have been in the habit of removing not only all fascia quite down to the muscle and cleaning out the axilla as matter of routine, but also much of the pectoral muscle in those cases in which the extent of the disease and situation appeared to indicate it. I certainly do not go so far as Halstead and some English surgeons in saying that in all cases the pectoral muscle should be sacrificed, neither do I consider that Halstead's operation, as described by him in the "*Annals of Surgery*" some few years ago (vol. xx.), and quoted by Mr. Butlin in the *British Medical*

Journal of December 3 last, is necessary to attain all we wish for. The incision for the removal of the breast must be decided on at the time of the operation, and one form of incision will not be found suitable for all cases, but it should always be a rule to make your incision so as to be as far away from the growth as possible.

The after treatment is not, I think, without interest, as in many cases when the axilla has been cleaned out the movements of the arm have been impeded, and this is a great deprivation and source of annoyance, and in those cases in which the woman has to get her living by work is a matter of considerable importance. In my early practice I invariably after the operation bound the arm firmly to the chest for several days, with the result that patients often contracted fibrous adhesion which prevented them from raising the arm at right angles to the side, and often necessitated their having to be placed under an anæsthetic later on to have these adhesions broken down. To avoid this, for a considerable time I have been in the habit of fixing the arm by means of a bandage to the top of the bed so as to have it slung at right angles to the side. The arm is kept in this situation for at least a week, the result being that the patient has perfect freedom of motion. My friend and colleague the late Mr. Cotterell had a rectangular splint made which he fixed on to the patient before she was removed from the operating table, but I find that the sling answers every purpose and is more comfortable.

Now to turn for a few moments to carcinoma of the uterus. There appears to be a great difference of opinion in the profession as to the operative treatment of cancer when attacking this organ, and I shall confine my remarks to my own experience, which is not small, and I shall hope to elicit the opinion of some of the distinguished gynæcologists who belong to this city, and for whose opinion and work I have the very highest respect.

It has been my lot to perform over 120 cases of vaginal hysterectomy for uterine carcinoma, and in many cases I

have operated when others have declined to do so. In some of these I have been doomed to disappointment; in others I have been rewarded by success, several patients being alive and free from recurrence two, three and five years after being operated on.

The same rule holds good here as in cancer of the breast, viz., the younger the patient the worse is the prognosis. To ensure the best results, early diagnosis is of the utmost importance, and I would urge upon you all—for, gentlemen, it is to you that these poor people apply first—the importance, aye, the absolute necessity, of your making a thorough vaginal examination in all cases of women who may consult you complaining of menorrhagia, purulent discharges and dysmenorrhœa, as often by examination you may detect either early malignant disease, erosion, polyp, or displacement, the latter of which are amenable to treatment, whilst malignant disease detected thus early can be operated on with the utmost confidence of success. A vaginal hysterectomy at this stage is not a dangerous operation; indeed, if the disease is limited to the os itself, perhaps a supra-vaginal amputation might be sufficient to remove all the disease. This operation, however, I do not advocate, as women thus operated on before the menopause are liable to contract stenosis of the uterine canal and suffer intensely afterwards from dysmenorrhœa. Formerly, before I began to appreciate the advantages of complete removal of the uterus, I performed supra-vaginal amputation as a routine operation in suitable cases of malignant disease of the os and cervix, and had very good results; but in many of those who were free from recurrence for some years and who had not reached the menopause, I had much trouble; in some cases the patients returned suffering from hæmatometra, and in others from dysmenorrhœa of the most terrible description. Then, again, the mortality after this operation is quite as large as after the major operation of vaginal hysterectomy.

As to the prognosis after operation, much depends upon the position of the disease, the extent of it and the length of time it has existed, for often patients suffer from carcinoma of the body of the uterus for months before any symptoms show themselves.

Cases of malignant disease of the os and lower part of the cervix undoubtedly are most favourable for operation, and in these the prognosis may be looked upon as favourable. I have one such, out of four which were operated on in 1892, who is still alive and well ; two which were operated on in 1893, three which were operated on in 1894, two in 1895, three in 1896, and others later. Now the diagnosis of such cases is not difficult, but I admit it is only by experience that one is able to say, with a fair amount of certainty, whether a case is malignant or not. If any doubt exist, a small piece may be excised for microscopical examination, but, even if the pathologist gives a favourable report, I should advise you to watch the case afterwards with the utmost care, as I have known pathologists to make a mistake, which might easily occur either by the surgeon cutting a piece of the ulcerated tissue from a part not already invaded, or by the person who cut the specimen for microscopic examination not being careful to select a portion of the specimen which was diseased. The disease when attacking this portion of the uterus is most frequently met with in women between 40 and 50 years of age.

The next most favourable position for the disease to be situated in for successful operative interference is the body of the uterus. The disease here may arise as a primary growth starting from the mucous glands, or from a polyp taking on malignant action, or from a submucous fibroid becoming malignant. This last form is, I believe, far more common than is usually supposed ; at any rate, I have had quite a number of cases. The last case, which was of very great interest, was in a lady over 50 years of age, who had been under two distinguished gynaecologists, suffering from myoma uteri. She had constant menorrhagia for two years,

but yet she was advised not to submit to operative interference, the hope being that at the menopause things might right themselves. After about two years' treatment she returned from spending the winter in the Riviera, and underwent examination under ether; the uterine canal was dilated and curetted. The scrapings being submitted for examination were pronounced to be malignant. The surgeon then informed her nothing more could be done. She then consulted me, and under ether I found unmistakable signs of malignancy. The os and vagina were free from disease, and the uterus with its myoma was fairly movable. I advised operation for the removal of the whole uterus and adnexa by the abdominal route. This I did, and she made an uninterrupted recovery. This case with others has impressed me with the importance of advising women at or about the menopause who may be suffering from soft rapidly-growing myoma of the uterus to submit to operation with a view to having the myomatous uterus removed, as I am sure those cases often undergo carcinomatous or sarcomatous degeneration.

The diagnosis of early malignant disease of the body of the uterus is most difficult. The patient usually suffers little or no pain or inconvenience; although there may have been trouble with some dyspeptic symptoms due to uterine irritation, and which have been treated in some cases for months without success by the general physician, the cause of the dyspepsia never having been suspected; when suddenly the patient is aware of some vaginal hæmorrhage which may be either continuous or only in sudden spurts. On examination nothing abnormal may be noticed; the os may be quite healthy, and the uterus not enlarged. On introducing the sound, however, bleeding is at once caused, or a sero-purulent discharge may be seen escaping through the os. In such a case I should rarely have any doubt but that the patient was suffering from malignant disease of the body of the uterus, especially if she had reached or passed the menopause. Such cases as these

I believe are most amenable to treatment ; that is, by removing the organ the patient has a good chance of having the disease eradicated.

A good majority of cases of this variety, when recognised early, may look forward to immunity from the disease, if not entirely, at any rate for some considerable period. Out of fifty-nine cases of vaginal hysterectomy operated on by me between the years 1891 and 1895, in sixteen the disease was limited to the body of the uterus. Of these sixteen cases one died from septic peritonitis, one died from recurrence in nine months, one in six months, one from secondary deposits in pylorus, one had recurrence and died within eighteen months, two died from other causes within two years, two had recurrence and died within two years, three were lost sight of ; the remaining four are alive now, free from recurrence at periods varying from six to three years.

The most unfavourable cases for operation, I believe, are those in which the disease commences in the cervical canal. The reason of this is that the tissues in the roof of the vagina and the lymphatics therein become very quickly infected, and the uterus in consequence becomes fixed early. When such a condition of things is found I do not advise operation, as the disease is sure to return. So long, however, as the uterus is freely movable, I care but little about the mucous membrane of the vagina being implicated, as one is able to cut away pretty clear of this ; and, although in certain cases it would appear that it would be impossible to remove the disease without opening the bladder, yet with care it is astonishing how one is able to detach this viscus without injury. The bladder is rarely implicated until quite late, as the lymphatics pass along the broad ligament to the obturator and sacral glands in the first instance, the tissues between the cervix and bladder becoming infiltrated later.

With regard to the method of removing the uterus I will not detain you, as it matters little, I think, whether the broad ligaments are ligatured or whether they are com-

pressed with clamps. But I will say, the wider you can get from the disease the better ; indeed, some American surgeons advocate the removal of the diseased organ by the combined abdominal vaginal route, so as to enable them to enucleate any enlarged glands that may be found.

REMARKS.

From the remarks I have made, the question naturally arises : what can we hope to attain by operation in these cases of malignant disease of the breast and uterus ? Can we hope to cure our patient ? In many cases I believe we can, that is to say, if we are to understand cure to mean in these cases that the patient shall enjoy immunity from disease for periods of from three years upwards. It would perhaps, be better, however, instead of employing the term "cure," in such cases, if we were to simply profess that by operative interference we can enable our patients to enjoy such immunity, so that the disease at any rate may lie dormant or latent for a considerable period of time.

The next question which arises, especially in the operative treatment of malignant disease of the breast, is this : Do patients enjoy a larger immunity now than they did when operative measures were not so radical as those prescribed by Halstead and other surgeons of the present day ? My experience is very strongly in favour of thorough and wide removal of the disease, and I am sure I have had better results during the last six or seven years of my practice than I had formerly. I can safely claim that now at least 20 per cent. of cases operated on are free from recurrence for periods of over three years, and although I have some patients still alive and free from recurrence who have been operated on from ten to twelve years ago, when I operated much less freely, yet these cases were more the exception than the rule.

In fact, my results tally very much with those of Mitchell Banks, Halstead, Watson Cheyne and Butlin in this respect. It must not be forgotten, also, that whereas it may be claimed that this large percentage may enjoy immunity for

over three years' limit, yet there are others who have died previous to attaining that limit from diseases quite distinct from that for which they were operated on. I would further claim that, even should the disease recur after a primary operation, yet by following the disease up and operating again and again, the patient may eventually be rescued, and the disease become latent for quite a number of years. I further believe that by greater care in operating and by more complete removal, still better results may be attained than have hitherto been even hoped for. Surgery is progressive, and I still look forward to the day when the medical profession will be able to cope with this terrible disease with the same amount of certainty that they do in many others which not many years ago were considered beyond the art of man.

Now with respect to malignant disease of the uterus, the radical operation of total extirpation is comparatively a new operation, and yet what brilliant results have followed in many cases in which the disease has been seen and diagnosed early !

The operation itself is in skilled hands anything but a severe one. The percentage of deaths may be put down at about 5 per cent. The shock of the operation is small, and the results in my hands have been most satisfactory. Of the 120 cases upon which I have operated, only eight died from the operation. Seventy of these were operated on prior to July, 1896. Of these fifteen are known to be alive and free from recurrence at the present time, while five other cases have been traced as dying more than three years after operation of some disease perfectly distinct from that for which they were operated upon.

Whether a more radical operation such as that suggested by Halstead, of removing the diseased uterus by the abdomen and dissecting out all the obturator, sacral and lumbar glands, may still further increase the percentage of those who may claim immunity after three years, I do not know, but I cannot help thinking that the mortality after

such an operation would more than counterbalance the benefit to those that are saved.

The results I have given you warrant me, I think, in saying that in my opinion all persons who are suffering from malignant diseases of the breast or uterus, which are not so advanced as to render an operation absolutely inadmissible, should be urged by the medical attendant to submit to have the diseased organ removed, and further, that reasonable hopes may be held out that immunity from recurrence may be entertained.

One word with respect to those cases of malignant disease of the breast in which operation is not admissible, or in which the case appears to be so hopeless as to render the success of operative interference more than doubtful. In these cases Dr. Beatson has advocated oöphorectomy, and in a most able paper read before the British Gynaecological Society urged strong arguments in favour of his theory. Theoretically, indeed, I admit, the idea was most ingenious and fascinating, but the cases with which he illustrated his paper were far from convincing.

Mr. Stanley Boyd, however, has evidently been smitten with the feasibility of Dr. Beatson's arguments, and has given the treatment a fair trial and published his results, which go far, I think, to ring the death knell to this form of treatment, as, if the cases he has published prove anything, they certainly clearly demonstrate that there can be nothing of a curative nature to be expected from the treatment. I have performed oöphorectomy in two cases of recurrent inoperable carcinoma of the breast, and my colleague, Dr. Purcell, in one; in no case was the slightest benefit noticeable.

I am pleased to read this paper to-day to a Society so largely representative as this, as it is not only the surgeon that is interested; and indeed, it is not the surgeon who is able to form an opinion, as he merely performs the operation, to return the patient to her own medical attendant, and it is this gentleman who is in daily touch

with her, and is far more able to judge as to the benefit derived from the operative procedure which he probably has been in the first instance the person to advise. I trust I may hear from those gentlemen I see before me to-day that they are satisfied that the advice they gave has been sound, and the surgical procedure which has been carried out by the surgeon to whom they have sent the patient has been perfect and lasting.

A CASE OF COMPLETE INVERSION OF THE UTERUS AFTER
DELIVERY. By W. WALTON DON, M.D.

ACUTE inversion of the uterus is an accident in obstetrical practice which occurs so rarely that I deem the case, which recently came under my notice, of sufficient interest to be placed on record.

On March 23, 1898, I was hurriedly summoned to attend Mrs. G., a multi-para, aged 23 years, and ascertained on arrival that she had been delivered of a full-term child (cranial presentation) five and a half hours previously ; that it was her second labour and that forceps had been used on both occasions ; the third stage of labour was described as normal and no excessive pressure had been applied to the abdomen ; the placenta had come away naturally, but twenty minutes after its separation, flooding accompanied by severe abdominal pain occurred.

When I visited the patient, about five hours after the onset of the pain, I found her utterly prostrate and the general condition extremely grave ; the face ashy-grey, lips bloodless, pulse almost imperceptible, and in fact death appeared imminent ; agonising pain was complained of in the lower part of the abdomen, but hæmorrhage had stopped. On feeling the abdomen, no tumour corresponding to the uterus could be made out, but a bi-manual examination revealed the following condition : a large, rounded, hard body, slippery and velvet-like to the touch, filled up and distended the whole of the vagina. In order to ascertain what this was, the right hand was gently insinuated between it and the vaginal wall. On reaching the vaginal fornices with the tips of the fingers, the almost

obliterated cervix could be felt "inside out." This, in conjunction with the other physical signs, made it clear that the mass was an inverted uterus. On the posterior and upper surface of it the placental site could be made out, and on the lower portion, corresponding to the fundus, a piece of membrane four inches square was found, which was removed.

Recognising the gravity of the situation I sent for assistance, but before it arrived the inversion was reduced in the following manner :—

The left hand was passed into the vagina and pressure on the centre of the fundus made in the direction of the axis of the pelvis, but being quite ineffectual and causing much pain, it had to be discontinued.

The pressure, however, caused a slight depression or dimpling in the lower portion of the mass, recognising which I continued to apply it to this portion by means of the first and second fingers, and finding that the pit gradually deepened, used more force until the fundus gradually resumed its natural state ; I was then able to insert all the fingers into the fundus, and placing the thumb outside the double wall of uterus, "fed in," as it were, the surrounding inverted portion.

A very few minutes of this manipulation reduced the bulk of the uterus, and it suddenly resumed its normal position, instantly relieving the severe pain.

Slight hæmorrhage again commencing, I compressed the uterus bi-manually ; the uterus remained relaxed for some minutes before contraction set in ; when contraction did occur, there was this peculiarity : that while the upper segment contracted firmly, the lower remained quite relaxed, so that the hand could be easily pressed up to the firmly contracted fundus.

I washed out the uterus with a 1 in 60 carbolic acid solution and administered stimulants for the collapse.

The patient made an excellent recovery without any untoward symptom.

I have since attended this patient in her third confinement, when I had to use forceps for uterine inertia.

After the labour I found the same condition of contraction in the upper with relaxation in the lower part of the uterus. From this I am inclined to think that the inversion commenced by an infolding of the wall of the uterus at the cervical region.

It can easily be imagined how the contracted fundus could be displaced and afterwards inverted either by mechanical means or by irregular contraction of the muscular fibres of the uterus.

REPORTS OF SOCIETIES.

THIRD INTERNATIONAL CONGRESS OF GYNÆCOLOGY
AND OBSTETRICS AT AMSTERDAM.

AUGUST 8-12, 1899.

THIS Third Triennial Congress was fairly numerously attended, 195 members registering their names. By an unfortunate misunderstanding none of our German *confrères* were present ; but with this exception the gathering could well be described as International. Great Britain and Ireland were represented by Dr. Robert Barnes (Eastbourne), Prof. A. R. Simpson (Edinburgh), Prof. A. V. Macan (Dublin), Prof. W. Japp Sinclair (Manchester), Drs. G. E. Herman, A. Wallace, Heywood Smith, Arthur Giles, and Messrs. Bowreman Jessett and Charles Ryall (London) ; Dr. T. M. Dolan (Halifax), Dr. M. Beverley (Norwich), and Dr. W. Alexander (Liverpool).

The morning Sessions were occupied by papers, of which a list is appended ; whilst the afternoons were occupied by the four special subjects announced for discussion. We are able to give abstracts of some of the papers and discussions.

Dr. Delagénière (Le Mans) : "On the Shortening of the Round and Broad Ligaments in Retroversion of the Uterus." The paper was discussed by Dr. Jacobs, Dr. Reed, Dr. Goldspohn, Dr. Vineberg and Dr. W. Alexander.

Dr. Doyen (Paris) : "The Treatment of Spontaneous and Post-operative Gynæcological Fistulæ."

Dr. La Place (Philadelphia) : "Demonstration of a Forceps for Intestinal Anastomosis."

Dr. Reynier (Paris) : "Total Abdominal Hysterectomy for Cancer of the Uterus." The paper was discussed by Dr. Doyen, Dr. Jacobs, Dr. Jonnesco, Mr. Bowreman Jessett, Dr. Pestalozza and Dr. Janvrin.

Dr. Heinrichius (Helsingfors) : "On the Clinical Importance of Retrodeviations of the Uterus."

Dr. Ziegenspeck (Munich) : "On Operations for Stenosis."

Dr. Jonnesco (Bucharest) : "Total Abdominal Castration for Adnexial Affections whether Septic or Not." The paper was discussed by Dr. La Torre, Dr. Reynier, Dr. Stratz and Dr. Hartmann.

Dr. Palmer Dudley (New York) : "Intra-uterine Implantation of the Ovary."

Dr. Davis Edwards (Philadelphia) : "The Management of Labour in Abnormal Pelves."

Dr. F. La Torre (Rome) : "The Nomenclature of the Oblique Diameters of the Pelvis from the point of view of International Obstetrics." The paper was discussed by Dr. Davis Edwards, Dr. Treub, Dr. Rapin, Dr. Bar and Dr. Pinard.

Dr. F. La Torre : "The Morphological Classification of Contracted Pelves." During the discussion on this paper it was suggested that an international commission should be appointed to revise obstetrical nomenclature. Dr. Pinard, the President of the section, nominated for this purpose the following gentlemen : Professor Treub (President), Dr. Bar, Dr. La Torre, Dr. Rapin, Dr. Queirel, Dr. de Rein, Dr. Davis Edwards, Dr. Simpson and Dr. Freund. The commission at once elected Dr. Paul Bar as secretary, and it was hoped that the report of the commission would be presented at the Obstetrical Section of the Paris Congress in 1900.

Dr. A. Favre (Chaux-le-Fonds) : "Labour and Nephritis."

Dr. M. Cosentino (Catania) : "Demonstration of Sections of the Cadaver."

Dr. F. Villar (Bordeaux) : "On Appendicitis in Women."

Dr. Oscar Beuttner (Geneva) : (1) "Experimental Researches on Castration - Atrophy ;" (2) "The Use of Salipyrin in Gynæcology ;" and (3) "Vomiting of Coffee - ground Coloured Material after Anæsthesia in Gynæcological and Obstetrical Cases where Instrumental or Operative Interference had been resorted to."

Dr. E. Doumer (Lille) : "On the Use of Currents of High Frequency in Gynæcology."

Dr. J. H. Carstens (Detroit) : "Abdominal Hysterectomy in Connection with Cæsarean Section." The paper was discussed by Dr. Palmer Dudley and Dr. Goldspohn.

Dr. J. L. Faure (Paris) : "Total Abdominal Hysterectomy in Suppurations of the Adnexa."

Dr. H. Duret (Lille) : "Colpohysterectomy in the Treatment of Irreducible Inversion of the Uterus." The paper was discussed by Dr. Dudley and Dr. Gutierrez.

Dr. A. Goldspohn (Chicago) : "Indications, Technique, and Results of the Alexander Operation in Aseptic Adherent Retroversions of the Uterus when combined with inguinal coeliotomy to liberate the organs and to resect or remove the adnexa when necessary."

"Discussion on the Influence of Position on the Shape and Dimensions of the Pelvis." This was opened by Dr. Bué, Dr. Pinzani, and Dr. La Torre, and continued by Dr. Kouwer, Dr. Nyhoff, Dr. Pestalozza, Dr. Ziegenspeck, Dr. Engelmann and Dr. Pinard.

A series of preparations was exhibited to illustrate Mdlle. van Tusschenbroek's paper on "Ovarian Pregnancy."

Dr. Delagénière (Le Mans) : "Total Hysterectomy in Cases of Fibromata complicated by Albuminuria."

Dr. Gouilloud (Lyons) : "Forcible pressure of the Uterine Arteries in Fibromata."

Mr. Bowreman Jessett (London) : "On the Treatment of Uterine Myoma."

Dr. Robert Bell (Glasgow) : "Medical Treatment of Fibromyoma and Ovarian Disease and of Incipient Carcinoma of the Cervix."

Dr. Woskresensky (Kieff) : "The Principles of Treatment of Uterine Myoma."

Dr. d'Hotman de Villiers (Paris) : "A Case of Total Abdomino-Vaginal Hysterectomy for a Large Fibroma."

Dr. Doléris (Paris) : "The Treatment of Fibromata with Pregnancy." The paper was discussed by Dr. Galvani, Dr. Gutierrez, Dr. Engström, Dr. La Torre, and Dr. Solovieff.

Dr. Duret (Lille) : "Certain Special Operative Procedures in the Treatment of Fibromata."

Dr. Gutierrez (Madrid) : "The Surgical Treatment of Myomata."

Dr. Fargas (Barcelona) : "The Surgical Treatment of Myomata."

Dr. Treub (Amsterdam) : "Statistics of my Results of Operations for Fibroma during the Last Three Years."

Dr. Schmeltz (Nice) : "A New Procedure for Abdominal Hysterectomy."

Professor Treub (Amsterdam) : "Antisepsis in Symphysiotomy and Cæsarean Section." The paper was discussed by Dr. Pinard and Dr. Queirel.

Dr. Chaleix Vivie (Bordeaux) : "The Innocuity of Anaplastic Amputation of the Cervix in Relation to Pregnancy and Labour." The paper was discussed by Dr. Pinard, Dr. La Torre, and Dr. Duret.

Dr. Rapin (Lausanne) : "On Insufflation of Air into the Uterus as a Means of Prevention of Fœtal Asphyxia." The paper was discussed by Dr. Pinard and Dr. Queirel.

Dr. La Torre (Rome) : "The Classification of the Positions of the Fœtus."

Dr. Queirel (Marseilles) : "Urology of Pregnancy and the Puerperal State." The paper was discussed by Dr. Bué, Dr. Pinard, and Dr. Treub.

Dr. Van der Velde (Amsterdam) : "The Elimination of Methylene Blue in Pregnancy." The paper was discussed by Dr. Pinard and Dr. Queirel.

Dr. J. L. Faure (Paris) : "Total Abdominal Hysterectomy for Cancer of the Uterus."

Dr. H. Hartmann (Paris) : "On the Operative Treatment of Salpingitis."

Dr. Laroyenne (Lyons) : Treatment of Cystocele by a New Process of Cysto-Hysteropexy."

Dr. Jonnesco (Bucharest) : "A New Method of Suture of the Abdominal Wall without Buried Sutures." The paper was discussed by Dr. Richelot, Dr. Solovieff, and Dr. Keiffer.

Dr. H. Brodier (Paris) : "On Periodic Intermenstrual Pain."

Demonstrations.

Dr. Doyen (Paris) gave two demonstrations of various operative procedures by means of the kinematograph. The first demonstration, on August 9th, had reference to general surgery ; by this means were represented Amputation of the Thigh, Excision of the Knee-joint, Removal of the Thyroid, Excision of Cerebral Tumour, &c. The second demonstration, on August 11th, illustrated Dr. Doyen's methods of Vaginal and Abdominal Hysterectomy.

Dr. Keiffer (Brussels) showed a number of microscopical sections illustrating the following subjects : (1) the Structure of the Normal Uterus and its Vessels ; (2) the Development of the Ovum and the Corpus Luteum ; (3) the Development of Fibro-Myomata ; and (4) the Uterine Mucosa in Successive Phases of Menstruation.

DISCUSSION ON THE RELATIVE VALUE OF ANTISEPSIS AND IMPROVED TECHNIQUE FOR THE ACTUAL RESULTS OF OPERATIVE GYNÆCOLOGY. By DR. RICHELOT (Paris).

Dr. Richelot said that for the answer to that question it would be necessary to first examine operative results, and they had therefore to discuss (1) the evolution of antiseptics, the part it had to play and its limitations ; and (2) the important modifications undergone by the technique in use of late years, and to point out how necessary it was to be a thorough surgeon in order to practise surgery with success.

(1) *The Development of Antisepsis.*—With Lister's method began the revolution which created the possibility for future perfection in technique, but it was not flawless and was not so yet. In the beginning all danger was supposed to come from the air and from the invasion of wounds by atmospheric germs. Carbolic acid then reigned supreme and that first period had been termed "empirical"—not entirely without reason. Afterwards came a time of more exact researches into the various causes of infection and the preventive measures to be adopted. Morphological investigation and experiments *in vitro* became the law. That was the era of scientific credulity when nothing more was aimed at beyond making use of the best laboratory antiseptic for sick-room purposes. It was not long, however, before the discovery was made that the very best antiseptic *in vitro* did not retain its value for clinical purposes and that laboratory prognoses were not always to be relied upon. It was found that the use of antiseptics was not only inefficient but at times dangerous. Hence it gradually became more or less discredited, whilst sterilisation by heat had been daily gaining favour. That brought them to the present time. The utilisation of heat for the destruction of germs and for sterilising instruments and dressings originated with Pasteur and had well-nigh attained perfection; its assistance in the struggle against infection was not to be denied. Should it be considered as a *new* method? It was asserted to be so by a class of surgeons who averred that antisepsis had been exchanged for asepsis. It struck Dr. Richelot that here there must have been confusion of ideas. Asepsis was the aim; antisepsis the way. Heat had been substituted as much as possible for powders and solutions, but heat in itself was only the most powerful antiseptic. He would therefore continue speaking of the "antiseptic" method. Moreover, heat was not adaptable to all purposes and they could not do without other antiseptics as well. It could not be asserted that the utilisation of heat had simplified matters. On the contrary, sterilisa-

tion could only be obtained by a very complicated and expensive apparatus, demanding the most careful manipulation. It was a great mistake to suppose, as some did, that so-called asepsis was nothing more or less than ordinary cleanliness; they could safely aver that the continual effort to attain asepsis by every means had brought forth the most admirable results. The boundary line of antisepsis must now be traced. They were enabled to a certain extent to prevent themselves from carrying infection to their patients, but as personal asepsis did not destroy the existence of bacteria they were fighting with unequal weapons against pre-existent infection. For instance, if in the course of abdominal salpingotomy the purulent sac should burst "contaminating the peritoneum by its contents," if the matter was particularly infectious the patient would die, whatever might be done to avoid fatal results. It might, however, also happen that when in similar cases the focus was carefully cleansed and drained with gauze the patient recovered after a few bad days: How were they to explain that? It might be that the pus was less virulent or that the organism defended itself, no share in the recovery being due to themselves. The notion concerning the powers of self-defence in the organism had rectified the absolutism of the earlier ideas on the subject of micro-organisms (the specific gravity and degrees of virulency in microbes). Bacteriologists had acknowledged its importance and shown its mechanism by demonstrating phagocytosis. The living organism was able to defend itself, it beat off attack when not in a debilitated condition and when armed with all its resisting power. If this was not the case hope was lost. They should not expect too much from *Natura medicatrix* and when in an enfeebled condition should give it the support that was wanted. Surgical art was now called upon and the importance of technique stood revealed. Antisepsis was the same for everyone and demanded only passive obedience to certain rules. On the contrary, techniques varied and were subject to personal aptitude. The value

of antiseptics was, within narrow limits, absolute ; the value of the techniques was relative and unlimited, it depended upon the operating hand and upon the directing head.

(2) *Evolution of Technique.*—The great technical improvements had been rendered possible by the use of anæsthetics, exact hæmostasis, and antiseptics.

Instruments.—Amongst the numerous inventions under this heading that their time had produced the greater quantity could safely be consigned to oblivion. They acknowledged the value of artery clamps and were much indebted to the Trendelenburg position, but as for the rest they did not place too much reliance on instrumentary innovations. The best results were obtained by the surgeon who knew how to use his hands and his common sense. Surgical ability in the widest sense of the term was comprised in the three chief qualifications—dexterity, ingenuity, and judgment. Dexterity varied in its nature—some possessed the gift by birth, others never acquired it, and most managed to do so, and to develope it by practice. Anyone could observe that for himself. An able surgeon operated quickly so as to minimise the dangers of a long operation—*i.e.*, greater chances of infection, hæmorrhage, shock, &c.—although quickness of execution should never be allowed to encroach on careful operating. The ingenuity of gynæcologists had opened several entrances to the pelvic organs and taught them various methods of proceeding, although it must always be remembered that for methods, as for instruments, excess did not mean riches. The history of operative treatment of pelvic diseases, fibroids, and uterine cancer, &c., showed how important was the choice of the *operative way*. To make sure of selecting well they must have broad views on the subject. Not one of them had the right to be imperfectly educated. Methods continued to become more and more simplified and in that way lay progress. The successive extra-peritoneal and intra-peritoneal treatment of the stump and total extirpation in the abdominal operations for fibroid furnished the

example. Another was found in the application of *pincés à demeure* in vaginal hysterectomy. Whatever way might be followed, whichever might be the method chosen, the details of execution would always decide the point. The true surgeon showed himself in the man who seemed to be operating easily and who managed to produce the impression that anyone else could do the same.

Dr. HENRI HARTMANN (Paris) pointed out the difference in mortality at the Hôpital Bichat during the last seventeen years. They could be summarised in the following tables :—

Statistics of the Hôpital Bichat at first.

	Cases	Deaths	Mortality
Ovariectomies (1883-4) ...	68	14	20·6 %
Hysterectomies (1883-5) ...	9	5	55·55 „
Salpingitis (1883-90) ...	56	10	17·86 „
Total ...	133	29	21·08 „

Personal Statistics (1896-9).

	Cases	Deaths	Mortality
Ovariectomies ...	16	2	12·5 %
Hysterectomies ...	27	2	7·4 „
Salpingitis ...	62	1	1·6 „
Total ...	105	5	4·77 „

The principal reason for this improvement in the total mortality was the substitution of asepsis for antiseptics. According to some authors, asepsis was simply the use of heat instead of chemicals: heat was, according to them, simply the most powerful antiseptic. But there was more in it than this: sterilisation by heat gave an absolute security, and one no longer had to discuss, as with antiseptics, whether such and such a solution had more or less value. The use of sterilised instruments, gauzes, compresses, and tampons was a very real advance. By steri-

lisation one avoided not only the contamination of the peritoneum by infective agents but also its injury by antiseptics, and antiseptic intoxication from absorption. In his practice he used antiseptics for the skin only, and even here he placed most reliance on scrubbing with soap and water. Antiseptics for the hands were strictly necessary only when one had become previously inoculated with infective products.

Taking special operative groups, further improvements in mortality were due to technique. One of the great causes of death after abdominal operations for purulent salpingitis was the inoculation of the peritoneum by septic contents of pus cavities. At first these cases were operated upon mostly by touch and by guess; pus sacs were liberated in the midst of coils of intestines, which came into the operation field, became infected, and then spread the infection. Hence the vaginal route, which exposed the intestines much less to this contamination, was a real advance, and diminished the sum of mortality: then abdominal surgeons perfected their technique, and while preserving for the upper route its previous advantages, especially the possibility of operating by *sight*, they added to it the principal advantage of the vaginal route, that of *limiting the field of operation*. As to hysterectomy, it had become radically changed, once discussions on the relative advantages of internal and external pedicle had ceased, for now gynæcologists were agreed that all pedicles should be obviated, and the uterus removed like any other tumour by simply ligaturing bleeding points. The principal improvements in technique of late years were:—

(1) Exact limitation of the field of operation. This was done by means of sterilised compresses, aided by the Trendelenburg position. It was of the greatest importance to avoid infecting the peritoneum from pus sacs, for though this pus might appear, on culture, to be sterile or only very slightly virulent, such pus might regain its virulence on being inoculated into the peritoneum.

(2) Avoidance of mass and chain ligatures. Thick pedicles not only tended to bleeding from slipping of pedicles, and to intestinal obstruction by adhesion-bands, but also were often the source later on of much pain.

(3) The covering over of raw surfaces by burying the ligatures under the peritoneum, and by bringing together peritoneal edges.

Dr. JONNESCO (Bucharest) said that asepsis (for now we must no longer speak of antisepsis) and technique had been the two greatest factors in the immense progress of modern operative gynæcology. But there were certain exaggerations against which it was as well to protest. For instance, had it not been asserted that without gloves for the hands and a mask for the face true asepsis could not be secured? That was an exaggeration, and he could affirm that by ordinary means a perfect asepsis of hands, instruments, and field of operation could be obtained. The progress of technique was due especially to anatomy which allowed a choice of procedures all based upon a perfect knowledge of the region to be operated upon. The gradual abandonment of the blind vaginal route, the successive ligatures of vessels after denudation replacing mass ligatures, the adoption of vaginal instead of abdominal drainage, and the completion of operations by the abdominal route, which was large, light, and as harmless as the other, these were the true steps of progress; and they were quite different from the question of knowing whether an operation was finished in five or six minutes instead of ten or fifteen, which was nothing but a surgical sport, more harmful than useful. It was the same with methods, good in appearance, but bad in reality, such as the replacing of hæmostasis by means of ligatures, by hæmostasis by means of pressure aided by angiotripsy. If the use of the angiotribe gave rise to only one death per cent., it ought to be absolutely set aside. But neither the best asepsis nor the most rational technique could ensure certainty in results: it was not uncommon to see failure in cases that appeared to be the most promising, and success

where it was least expected. There was still to be reckoned with the degree of resistance of the organism, a factor which was among the most important and the least known.

In the discussion the following also took part:—Dr. William Alexander (Liverpool), Dr. Robert Bell (Glasgow), Dr. Stratz (La Haye), Dr. Doyen (Paris), Dr. De Rein (Kieff), and Dr. Heywood Smith (London).

The discussion on "The Surgical Treatment of Fibro-Myomata" was opened by Dr. DOYEN (Paris), who pointed out that uterine fibroids were far from being a benign affection, for besides the more frequent accidents, such as hæmorrhage and pressure symptoms, grave complications were apt to supervene, the most important of these being phlebitis, albuminuria, intestinal obstruction, and malignant degeneration. (1) Phlebitis in these cases was of infective origin, the starting-point of the infection being the uterine cavity. (2) Albuminuria might occur without either the volume of the tumour or the tension on the abdominal walls appearing to be responsible; it was found not only with incarcerated fibroids but also with those that were mobile and even with pedunculated tumours. Albuminuria was therefore not a contra-indication to operation; on the contrary, it was often one of the most urgent of indications. The same might be said of serious hæmorrhage leading to marked anæmia; removal of the tumour and ligature of the uterine arteries formed the best means of hæmostasis. (3) Intestinal obstruction was sometimes the direct result of pressure, but in most cases it was due to fibrous bands and adhesions behind the uterus. Doyen had known these to occur in several instances as the result of so-called "palliative" methods, such as electricity and interstitial injections of ergotin. (4) Malignant degeneration might take the form either of sarcomatous change in the myoma itself or of epithelioma of the cavity of the cervix or of the mucosa of the body of the uterus. The fact of the existence of a myoma was not necessarily an indication for operation; if the size of the tumour remained stationary the patient should

be kept under observation and examined three or four times a year. But if it were increasing in size and inducing the complications above mentioned, operation became a necessity. The discussion should be framed with a view to the general adoption of a well-determined line of treatment and of a precise operative technique. He sought to demonstrate that his procedure of vaginal hysterectomy without preventive hæmostasis by anterior hemisection, on the one hand, and his procedure of total abdominal hysterectomy by subserous decortication of the inferior segment of the uterus on the other hand, constituted the two most important advances in the surgery of fibro-myomata within recent years. He contended that his technique was so simple as to admit of no further improvement of any importance and so sure as to almost entirely suppress every risk of the operation; that it was applicable, with slight modifications of detail, to every case without exception; and that it was within the reach of all surgeons. Dr. Doyen then passed under brief review the various historical steps in the evolution of hysterectomy—viz.: (1) vaginal myomectomy with conservation of the uterus (Amussat, 1840); (2) removal of pedunculated fibromata by laparotomy (Atlee, 1844); (3) supra-vaginal amputation of the fibroid uterus (Kimball, 1855; Koeberlé, 1863); (4) removal of ovaries and tubes by laparotomy (Trenholm-Hegar, 1876); (5) abdominal myomectomy with conservation of the uterus (Martin, 1878); (6) vaginal hysterectomy (Kottmann, 1881; Péan, 1882); (7) revival of Amussat's vaginal morcellation (Péan, 1884-1886); (8) application of morcellement to the vaginal ablation of the fibromatous uterus (Péan, 1886-1889); (9) abdomino-vaginal hysterectomy (Péan 1886); (10) abdominal hysterectomy, with serial ligature of the broad ligaments (Martin, 1889); (11) vaginal hysterectomy by anterior hemisection of the uterus without preventive hæmostasis; hysterotomy by simple or V-shaped anterior hemisection, with conservation of the uterus (Doyen, 1887); and (12) total abdominal hysterectomy

by subserous decortication of the inferior segment of the uterus (Doyen, 1891). With regard to operative procedures, the operations for the removal of fibro-miomata were considered under two main divisions :—(1) operations through the vagina; and (2) operations by abdominal section. Each of these divisions comprised three subdivisions: (1) removal of pedunculated fibroids; (2) enucleation of interstitial myomata, with preservation of the uterus; and (3) total removal of the fibromatous uterus. I. Vaginal operations.—(1) removal of pedunculated fibroids (fibroid polypi); and (2) enucleation of interstitial myomata. Both these procedures were briefly described; in either case a large myoma was treated by morcellement prior to removal. Dr. Doyen pointed out that in the case of enucleation the chief danger to be guarded against was perforation of the uterus. (3) Vaginal hysterectomy. Dr. Doyen's procedure was described as taking place in the following stages. First stage: incision of the posterior fornix, opening of Douglas's pouch, and exploration of the pelvic cavity. Second stage: incision of the anterior fornix and separation of the bladder. Third stage: crushing of the lower and middle parts of the broad ligaments. For this purpose the *écraseur* was applied on each side for from 15 to 20 seconds. The uterus could then be easily drawn down. Fourth stage: anterior hemisection of the uterus, either by median or by V-shaped incision, and drawing down of the uterine fundus. For a small uterus the median incision sufficed to allow the fundus and the adnexa to be brought down; for a larger tumour the V-shaped incision was employed. Fifth stage: application of a pressure forceps on each broad ligament and separation of the uterus. Sixth stage: crushing of the upper border of the broad ligament and application of ligatures. After the application of the *écraseur* for from 15 to 20 seconds above the pressure forceps a silk thread was tied in the groove formed by the *écraseur*. The use of the instrument ensured that the pedicle was relatively

thin. As the threads were gradually tightened the assistant cautiously removed the pressure forceps. A single thread thus embraced each broad ligament. Seventh stage: peritoneal toilette, co-aptation of the peritoneal flaps, and tamponnade of the vagina. The modifications necessitated by various complications were described in detail.

II. Abdominal operations:—The operation of choice was total abdominal hysterectomy, with subserous enucleation (*décortication*) of the inferior segment of the uterus. This comprised the following stages. First stage: abdominal incision and raising of the tumour out of the pelvis. Second stage: when Douglas's pouch was free an assistant caused to project under the peritoneum a long curved forceps, placed in the vagina before the operation, and cutting down on this the vagina was opened: the cervix was seized and drawn backwards and upwards. Third stage: the cervix was separated from the bladder by opening the anterior vaginal fornix from the vaginal side. Fourth stage: the right broad ligament was seized with forceps and divided on its uterine side: the tumour was then turned over and the left broad ligament was treated in a similar fashion. Fifth stage: hæmostasis. The pedicles of the adnexa were crushed, tied, and divided. The uterine arteries were also tied and the forceps were removed. As a rule no other ligatures were required. Sixth stage: a purse-string suture was carried from the retro-uterine peritoneum across the peritoneum of the right adnexa to the peritoneum between the right adnexa and the bladder. When this was tied it threw the stump of the right adnexa below the peritoneum. A similar suture shut off the stump of the left adnexa. A continuous suture carried from one side to the other approximated the retro-uterine peritoneum to that of the bladder. Seventh stage: the peritoneal cavity was dried with sterilised gauze compresses and the abdominal wound was closed in two layers, silk for the peritoneum and fascia, and horsehair for the skin.

Dr. BALDY (Philadelphia) said that the first stage in the treatment of fibroids was the removal of the tumour independently of the question as to what became of the uterus; the second stage represented an attempt to remove the tumour or relieve the symptoms without removing the uterus; this stage was illustrated by such procedures as oöphorectomy, curetting, and electrical treatment. The third and final stage comprised the two operations of myomectomy and hysterectomy. The choice in performing these operations lay between the vaginal and the abdominal routes. Of these Dr. Baldy preferred the abdominal plan.

Dr. DELAGÉNIÈRE (Le Mans) dwelt especially on the value of the ligature of the uterine arteries through the vagina in the treatment of myomata. By this means hæmorrhage was reduced and the volume of the tumour was rapidly diminished. When menstruation returned it was found to be much less abundant. This method had the advantage of being safe and efficacious, and it in no wise compromised the performance later on of more radical operations if these appeared to be indicated.

Professor HECTOR TREUB (Amsterdam) said that for soft fibroids of medium size he generally began by injections of ergotin or by electricity. From this treatment he had found radical cure in some cases and symptomatic cure in others. His operation cases were 76 in number.

Dr. HEYWOOD SMITH, in his opening remarks, expressed a wish that the Congress would lend the stamp of its authority to an attempt to somewhat rectify our nomenclature. He considered it a great pity that the word "laparotomy" had been introduced to signify a central abdominal incision, for *λαπαρον* is a flank, and should be used with more propriety to a lateral incision as that, e.g., needed for nephrotomy. There was no doubt but that *cæliotomy* was the proper word. While on the subject of etymology he would put in a word on behalf of "*sub-peritoneal*" instead of "*retroperitoneal*" hysterectomy. It

is a more correct description, having regard to the erect position of the body, the situation of the cervical stump being *under* the sutured pelvic floor.

Through our recent knowledge of the natural history of fibrous tumours we have become impressed with the fact that, apart from pain and hæmorrhage, and the mischief that often arises from their growth, producing pressure on and obstruction of the ureters and rectum, they may take on a malignant development, so that the opinion as to the advisability of their removal is more often given than formerly was the case; and it is therefore incumbent on us to recommend that form of operation that is likely to give the best result to the patient, while at the same time exposing her to the least possible risk. Following up this line of thought, he was persuaded that subperitoneal hysterectomy gave better results and was attended with less risk than so-called panhysterectomy. In the former operation the original aspect of cervix, &c., remained unaltered, and the additional risk of sepsis through the vaginal wound was absent, besides which the operation took less time, and therefore the patient had the advantage of a shorter exposure to the anæsthetic and less risk of shock; whereas in panhysterectomy the abdominal operation was supplemented by the vaginal operation, which greatly prolonged the operation, and moreover necessitated a change in the patient's position, &c., which was inadvisable. There was no doubt that in the case of small fibroids where they could be removed *per vaginam* altogether, that method was to be preferred, and so far the mortality was not high; but in the majority of cases, and where it was not certain whether the fibrous tumour was intramural, or projected outside the uterine body, cœliotomy was called for, and the uterus being amputated at the junction with the cervix, subperitoneal cœliotomy, or, rather, subperitoneal hysterectomy by cœliotomy, was the operation indicated. In the removal of a fibrous tumour of the uterus, if the cervix was wholly unaffected, it was

preferable, if possible, to leave one ovary, as the constitution of the woman was thus less unfavourably influenced. Dr. Heywood Smith thought that in England there was a greater disposition among the best operators to do sub-peritoneal hysterectomy than panhysterectomy. Before such an audience of experts it would be quite unnecessary to go into any details as to the steps of the operation, the variations in each case giving rise to special methods of procedure, though in the main lines the method would be similar in most cases.

Dr. W. ALEXANDER (Liverpool) maintained that myomectomy was the operation of the future, for by this procedure the ideal was obtained—viz., that the diseased structure should be alone removed, and the function of organs as far as possible retained. He found it possible to remove a number of tumours through a single median incision of the uterus. He had done this operation now in a number of cases without a fatality.

Dr. CARSTENS (Detroit) dwelt on the importance of dealing with each case on its merits. In the case of a young woman who perhaps desired children he advocated greater risks and recommended myomectomy. In an old patient with lacerated cervix he would advise total hysterectomy, but in a nulliparous woman near the menopause, where the cervix was clean and healthy, he recommended supra-vaginal amputation of the uterus.

Dr. JACOBS (Brussels) thought that the trend of modern opinion was this, that in the absence of symptoms nothing should be done, and that if any procedure were required, it should be a radical one. He advocated supra-vaginal hysterectomy in preference to total hysterectomy.

Dr. JONNESCO (Bucharest) expressed the view that the improvement of technique was the most important thing in the surgery of myomata, and among improvements of technique the most notable step was the giving up of mixed abdominal and vaginal procedures. He thought that vaginal operations had only a very limited applica-

tion in the treatment of myomata. He did not approve of waiting till alarming symptoms were present before operating on fibromata; by operating early the best results were obtained. That was specially true in the case of fibromata in young women, where the growth was apt to develop very rapidly. Partial operations were very seldom indicated, because, as a rule, they were inefficacious, and in the majority of cases total hysterectomy was the operation of choice. This should be done by the abdomen, since an easy abdominal extirpation was in every way better than a laborious vaginal one. Of the three great procedures of abdominal hysterectomy that one by separation from above downwards seemed to him the best; although the other two had also their indications, viz., the lateral or American method, and Doyen's plan of separation from below upwards. In the choice of method one should be eclectic, as each plan was best in certain cases.

Dr. ARTHUR GILES (London) said that he did not regard the presence of a myoma as necessarily an indication for operation; but when interference was necessary he had little faith in palliative measures such as electricity and injections of ergotin, but thought it was better to proceed at once to the removal of the tumour by myomectomy, or of the uterus and tumour by hysterectomy. To his mind, therefore, the indications in the majority of cases were quite definite; if there were no symptoms the case should be left alone but kept under observation; if there were symptoms of hæmorrhage, pressure, or degeneration of the tumour, the treatment should be removal. The methods of operation comprised two main classes—vaginal and abdominal; in either case two procedures were possible—viz., removal of the tumour alone and removal of the uterus and tumour. In Dr. Giles' opinion partial operation should be restricted in the case of vaginal operations to removal of fibroid polypi and isolated interstitial tumours becoming polypoid, and in the case of abdominal operations to the removal of pedunculated

tumours. Removal of small myomatous uteri might be done through the vagina, but as small uteri seldom gave rise to symptoms he thought that that operation would not be very often indicated. He thought that the operation of choice was supra-vaginal amputation of the uterus.

Dr. HEINRICIUS (Helsingfors) described the method of hysterectomy which he advocated, viz., the supra-vaginal amputation of the uterus, leaving peritoneal flaps. The cervical canal should be disinfected by means of the thermo-cautery. The peritoneal flaps were then united over the stump. His results had been satisfactory, the mortality being 3 per cent.

Dr. PESTALOZZA (Florence) thought that there were very few cases in which fibroids gave rise to no symptoms, especially in young and unmarried women; consequently most of these cases required operation. He had performed altogether 102 operations, of which 99 were by the abdomen and only 3 by the vagina. His preference was therefore evident. Of the 99 cases he had had only three which were fatal. Many of the earlier cases were done by the method of total hysterectomy, but among the later ones there was a large proportion of cases of supra-vaginal amputation of the uterus.

A paper was read for Professor FREDERIC SCHAUTA (Vienna), who was unable to be present, on the Surgical Treatment of Fibro-Myoma. Professor Schauta's personal experience was founded on 424 cases of operative treatment of myoma uteri with opening of the peritoneum. As to general indications, he held that tumours were only to be treated surgically in cases where all other treatment had failed. When they merely existed without causing pain or other symptoms it was not justifiable to operate. The palliative operations were curettage and castration. They were generally to be set aside as inefficient and very often dangerous and should be reserved for very small intramural tumours.

Vaginal Operations.—The removal of pedunculated sub-

mucous tumours could be effected through the dilated cervical canal. For broad-based sub-mucous myomata it was necessary to dilate and sometimes to cut open the cervix. Enucleation was only indicated when part of the tumour was *born*. The operation must on no account last more than one *séance*, on account of the danger arising from possible asepsis or gangrene.

Abdominal Operations.—Four procedures required consideration. (1) Abdominal enucleation for the removal of pedunculated myomata. This was called for only in cases of isolated tumours not larger than a man's fist ; the indication was therefore rare. Professor Schauta performed enucleation 25 times, with five deaths, of which three occurred from embolism and pneumonia. (2) Supra-vaginal amputation ; extra-peritoneal treatment of the pedicle. Professor Schauta was formerly a partisan of that operation, but now practised it only on exceptional or urgent cases. He had done 78 such cases with 13 deaths, 4 of which were from causes apart from the operation. (3) Intra-peritoneal treatment of the pedicle. Professor Schauta had done this operation only three times, twice with fatal results. He admitted the primary advantages of the method, but considered the frequent occurrence of exudation and the possibility of malignant degeneration of the stump of far too great importance to be overlooked, and therefore sought for a better method. (4) Abdominal total extirpation. The only objection to that method was its difficult technique and a slightly higher rate of mortality than with the extra-peritoneal method. He obtained the following results : Out of 106 operations there were 12 deaths, *i.e.*, 11·3 per cent. ; only 10 of that number, however, were the direct result of the operation. Professor Schauta's technique was as follows : After eventration of the tumour the broad ligaments were secured on either side by forceps, two on each side ; he then made the incision of the serosa and detached the bladder as far as the insertion of the vagina ; the parametria were clamped quite near the uterus and the incision of the

uterus was made. Two clamps were also placed right and left of the lateral vaginal pouches and the vagina was opened right and left. The tumour was now held by a narrow bridge formed by the anterior and posterior vaginal walls. This bridge being similarly secured by two curved clamps the uterus was severed. For the clamps were now substituted ligatures, which were not cut short, to be used for drainage, and finally the peritoneum of the bladder was united with that of the posterior vaginal wall.

Mr. F. BOWREMAN JESSETT said that they were all of one mind as to the practice which should be adopted for myomata of small size which gave rise to no trouble, no pain, no hæmorrhage, and no symptoms of compression. These undoubtedly should not be interfered with by operative procedures, but at the same time the patients should be kept under observation, and if at any time the tumours should be seen to be increasing in size or hæmorrhage occurring then they should at once be removed. The question of which operation should be performed would appear to lie between myomectomy, the sub-peritoneal operation, or total extirpation either by the abdomen, the vagina, or by the combined abdominal-vaginal route. Personally, the speaker preferred the operation for total extirpation, but in cases in which the patient was in an enfeebled condition or the cervix was much elongated, then he would suggest the sub-peritoneal operation.

Dr. JAPP SINCLAIR (Manchester) contended that there was no one operation suitable for all cases; but in most cases he thought that the operation of choice among abdominal procedures was supra-vaginal amputation of the uterus. In contra-distinction to several previous speakers, he advocated the operation through the vagina whenever this was possible.

Dr. GORDON (Portland, Maine) strongly advocated the removal of the uterus whenever it was found to be affected with myoma.

The discussion on the Relative Indications of Cæsarean Section, Symphysiotomy, Craniotomy, and Premature Induction of Labour, was introduced by Dr. PINARD (Paris).

The abdominal section, he said, was a simple operation, easy to execute, and the dangers of infection and hæmorrhage were greatly diminished, thanks to the application of antiseptics and of sutures. As to the child, it was placed beyond the reach of all traumatism. While the Cæsarian operation permitted the immediate termination of the delivery, section of the pubes with consecutive dilatation of the pelvis constituted a preparatory intervention permitting the child to traverse the outlet without having to struggle against the osseous wall. The soft parts, vagina and vulva, should be afterwards dilated so that the child could be expelled or extracted per *vias naturales*. Symphysiotomy was also an easy operation, as the statistics of the Baudelocque Clinic proved, for out of 100 cases practised between 1892 and 1899, 88 mothers recovered and 87 children were born alive. Twenty-two of these women became pregnant for the second time, and sixteen were delivered naturally, while the remaining six had to submit to a second operation. Craniotomy, in which the child was considered as a foreign body, was rarely sufficient in itself, crushing and dislocation of the head were nearly always necessary. Out of eighty-one craniotomies practised in his wards within the last fifteen years, seventy-two of the patients recovered. Premature artificial delivery, which consisted in the interruption of the pregnancy at a period where the fœtus is viable and at the moment when its dimensions do not exceed that of the pelvis, should suppose a precise knowledge of the age of the pregnancy, of the degree of the narrowness of the pelvis, and of the dimensions of the fœtal head. These desiderata were rarely realised in clinical practice, if one were to judge by the best statistics, by which were shown that the fœtal mortality exceeded 30 per cent.

As regarded the indications and counter indications, the principle should be laid down that the accoucheur should

be a doctor in all his acts ; the obstetrician had always before him the duty to protect the child as well as the mother. Applied to the therapeutics of pelvic deformity, that doctrine excluded provoked delivery as well as embryotomy on the living child. If before the era of antiseptis, at a period when the Cæsarian operation or symphysiotomy were usually followed by death to the mother, premature delivery had been recommended and adopted, it was no longer the case in these days. When a woman cannot be delivered on account of malformation of the pelvis, and the child was living, two operations alone were possible, dilatation of the outlet or abdominal section.

M. PESTALOZZA (Florence) said that premature artificial delivery was without danger to the mother when the rules of antiseptis were scrupulously observed, but it exposed the child to several accidents, immediate or remote. It was particularly indicated in young women in their first confinement. Symphysiotomy should be reserved for those who had borne several children on account of the inextensibility of the tissues in the primipara.

Dr. ARTHUR GILES (London) said that among different authorities the relative indications for these procedures varied within rather wide limits. His own view was summed up as follows : (1) True conjugate of from 100 to 85 millimetres : forceps, version, or premature labour. The nearer the lower limit was approached the stronger was the indication for premature labour. (2) Conjugate of from 85 to 70 millimetres : premature labour, symphysiotomy, or craniotomy. If elective, labour should be induced prematurely or wait till term for symphysiotomy. If at term symphysiotomy if the child were living and craniotomy if the child were dead. (3) Conjugate of from 70 to 55 millimetres : symphysiotomy, Cæsarean section, or craniotomy. If the child were small symphysiotomy was possible ; if the child were large Cæsarean section was inevitable ; and if the child were dead craniotomy was to be done. (4) Conjugate of from 55 to 40 millimetres ;

Cæsarean section was to be done whether the child were large or small, living or dead. The aim of all and the speaker's hope was that before long craniotomy of the living child would become a thing of the past. It was necessary that general practitioners should realise that symphysiotomy was quite within their province, so that if the patient were seen too late for the induction of premature labour the child might be saved. On three questions there was practical unanimity of opinion: (1) in extreme degrees of contraction the proper course was Cæsarean section; (2) in all cases craniotomy of the living child should be avoided if possible; and (3) for minor degrees of contraction forceps or version were best. The chief point at issue was the choice between symphysiotomy and premature labour; and his view was that if the patient were seen in time the latter was preferable in view of its much lower maternal mortality.

Dr. L. MEYER (Copenhagen) pointed out that premature labour stood in a category apart, since that necessitated seeing the patient early in pregnancy. When this was possible he thought that premature labour would give the best results, especially with improvements in technique. For this operation he preferred the use of the bags of Champetier de Ribes, the smaller sizes being best. With regard to craniotomy, while he maintained that it should be avoided whenever it was possible, he submitted that there must remain cases where it was inevitable, as, for instance, when the father and mother refused to consent to a serious operation. The question of choice between symphysiotomy and Cæsarean section must be modified to some extent by the condition of dilatation of the os externum. It was to be remembered also that if the conjugata vera were seven centimetres symphysiotomy would at the best give an enlargement equal to 8·5 centimetres; now, with a conjugata vera of 8·5 centimetres there might be a great deal of trouble. Consequently symphysiotomy in such cases might be followed by a very troublesome

delivery, and he would prefer Cæsarean section. The after-treatment also of symphysiotomy was much more difficult than that of Cæsarean section.

Dr. COROMILAS (Athens) made a few observations, after which—

Dr. F. LA TORRE (Rome) admitted with Professor Pinard that symphysiotomy was an excellent operation from the point of view of theory, but in practice it was almost impossible in many instances. There were cases in which symphysiotomy would not be allowed by the patient's friends, especially in outlying and ignorant districts. The mere proposal to operate might be attended with personal risk to the accoucheur. Professor Pinard apparently recognised nothing but symphysiotomy, but if the poor accoucheur could not do this operation in any given case, what was he to do? Was he to let the patient die? Symphysiotomy was actually practised by very few at the present time, and he maintained that, however admirable it was in principle, they must admit also the procedures of premature induction of labour, and even of craniotomy.

Dr. ENGELMANN thought that in some places there was a tendency among skilled operators to resort to Cæsarean section much too freely. This caused symphysiotomy to be unduly neglected. It would be found that, taking it all round, the results of symphysiotomy were much better than those of Cæsarean section; and this was especially the case in the hands of general practitioners. As a matter of fact, the earliest successful symphysiotomies were performed by general practitioners in country districts and not in towns or hospitals. The choice between symphysiotomy and craniotomy should always be given to the former. He hoped to see craniotomy of the living child abolished, both because of its moral aspects, and also because of its maternal mortality, which was considerable. In England statistics of craniotomy showed a mortality of 7 per cent.

Dr. HECTOR TREUB (Amsterdam) said that he shared the

views of Leopold rather than those of Pinard. Pinard had said, "the physician must never kill." The principle was excellent, but not always practical. Symphysiotomy was a procedure which endangered the life of the mother without assuring the safety of the child. Consequently, even in hospitals, but especially in town practice, craniotomy must still be admitted as a necessity, however revolting the operation might be.

ON OVARIAN PREGNANCY. By Mdlle. CATHARINE VAN
TUSSCHENBROEK, Amsterdam.

The writer said that the specimen which was the object of the demonstration was obtained by an operation of Professor Kouwer of Utrecht. The case was one of hæmorrhage into the peritoneal cavity with all the characteristic clinical symptoms of ruptured ectopic pregnancy. The patient, aged 31, the mother of five children, was in good health until the moment of the catastrophe. Her last menstruation was six weeks previously. The diagnosis of ruptured ectopic pregnancy was made and laparotomy was performed at once. As soon as the abdomen was opened a great quantity of dark-coloured blood gushed forth. The patient was brought into Trendelenburg's position. The uterus proved to be soft and somewhat enlarged. The left ovary and tube were normal; at the right ovary was found a tumour as large as a walnut, to which blood-clots adhered. The right ovary and tube were removed. The tube was quite normal; the fimbriæ were somewhat conglutinated but the lumen was free. Pathological adhesions between the ovary and the tube did not exist. The tumour and the ovary showed near its top the place of rupture, from which a ruddy fringe came forth. After being hardened the specimen was opened by a median section going through the fringed opening. By this section the gestation sac in the tumour was cut in two halves and an embryo appeared of about 12 millimetres in length, fixed by a short and thick

umbilical cord. Macroscopical inspection left no doubt that the case was one of ovarian pregnancy. Microscopical investigation showed that the impregnated ovum had developed within a Graafian follicle. That was proved by the fact that the wall of maternal tissue which surrounded the ovum showed the structure of the ruptured Graafian follicle—the well-known corpus luteum. Decidual transformation of the connective tissue in the ovisac was nowhere to be found. The foetal elements were quite the same as in normal uterine placentation. The foetal villi showed the plump and irregular forms which belonged to this early stage of pregnancy. Their epithelial investment consisted of two layers—Langhans' cells and the syncytium. The latter was in many places ciliated. The conclusions which Mdlle. van Tusschenbroek came to were as follows: (1) Ovarian pregnancy was a fact; (2) ovarian pregnancy meant pregnancy in a Graafian follicle; (3) the wall of the pregnant Graafian follicle not being transformed into decidual tissue they must conclude that for the implantation of the ovum Webster's decidual reaction was not a *conditio sine quâ non*; (4) one piece showing a regular development of characteristic syncytium they had a new and incontestable proof that syncytium had nothing to do with uterine or tubal epithelium and was an offspring of the foetal ectoblast.

REVIEWS.

CLINICAL TREATISE ON THE DISEASES OF THE BREAST.

By A. MARMADUKE SHEILD, M.B., F.R.C.S. Macmillan & Co.

Mr. Sheild has led us to expect something original in any enterprise he undertakes, and in this his latest work he has again succeeded in placing his subject matter before us in a fresh, clear and lucid style, which thoroughly interests at the same time that it impresses us with the importance, scope and frequent difficulty of diagnosis of the troubles of this organ. After an interesting sketch of the development, anatomy, and function of the breast, we come to a most useful chapter on Acute Mastitis and the Varieties of Mammary Abscess. This is full of material interesting to every practitioner, and it is impossible here to do more than hint at a few of the points impressed upon us. In speaking of acute mammary abscess, Mr. Shield concludes that in the vast majority of cases, whether arising during lactation or not, they are due to absorption by the lymphatics of organisms, which enter abrasions in the nipple or areolar. He considers that the statistics at Queen Charlotte's Hospital show the desirability of extreme care in the management of the nipples, especially during the early stage of lactation. With regard to chronic abscesses it is clearly pointed out that fluctuation may be quite absent, together with local heat and fever, that the leading signs of a deceptive accumulating of pus are : (a) soreness or abrasion of the nipple ; (b) firm pressure with the pulp of finger giving the sensation of yielding, with slight œdema ; while (c) exploration is the only certain diagnostic means of discovering a chronic deeply seated abscess. Some cases are fully quoted to show the difficulty that so often arises of diagnosing a chronic abscess from a malign tumour.

Some excellent practical hints follow as to the best methods of opening and dressing such breast abscesses. When dealing with chronic mastitis, Mr. Sheild again illustrates in forcible manner the difficulties associated with the diagnosis between this trouble and cancer, he shows how easy it is to mistake one for the other, and also the possibilities of both existing in the same breast at the same time. This chapter so clearly demonstrated to our mind the possibilities of error in diagnosis even in the hands of the most skilful, that we feel time only will restore us to even a moderate condition of self-confidence. A full account follows of the group of innocent tumours, these are of extreme importance to the general practitioner, but the surgeon will, no doubt, turn his attention more especially to the exhaustive account of the malignant tumours and the best procedures for dealing with them. The whole of this section is well worth careful reading, and quotation would only spoil Mr. Sheild's trenchant writing and reasoning.

He very truly says that it is a difficult matter to present to the reader a trustworthy statement regarding the ultimate results of operations for cancer of the breast. When the advocates for the complete operation are able to bring forward a large series of cases where after amputation of the *mammæ* for carcinoma, the patients have survived free from cancer for ten years or upwards, and those who have died during this period have been proved pathologically to have their tissues free from cancer, then and not until then, shall we be in a position to judge of the truth of conditions like the cure of cancer by operation.

He objects to the freedom from recurrence for three years being considered as indicating a cure. He quotes the results of a large number of operations, and discusses very carefully the kind of growths in connection with the necessary operative measures, and is as we would expect in favour of the complete operation in the majority of cases.

Great energy and care must have been expended in compiling this volume. The statistics and cases quoted cover such a large area of material, that in addition to their special interest they summarise the work of the best surgeons. This fact in itself makes Mr. Sheild's book to our mind the most useful and valuable on this subject as yet put before the profession. The get up is quite in keeping with the material. The illustrations are profuse and original, the letter press and binding excellent.

MATERIA MEDICA AND THERAPEUTICS. An Introduction to the Rational Treatment of Disease. By J. MITCHELL BRUCE, M.D., F.R.C.P., Lecturer on Materia Medica at Charing Cross Medical School, and Physician to the Hospital. 7s. 6d.

We welcome the new revised and enlarged edition (thirty-eighth thousand) of this work now adapted to the new British Pharmacopœa, and brought up to the level of our present knowledge. As a valuable text-book for students, a handy work of reference for the busy practitioner, its convenient form and the arrangement of its contents will ensure its continued popularity.

ELECTRO - HÆMOSTASIS IN OPERATIVE SURGERY. By ALEXANDER J. C. SKENE, M.D., LL.D., Professor of Gynæcology in the Long Island College Hospital, Brooklyn, N.Y.; ex-President of the New York Obstetrical Society and of the American Gynæcological Society, &c.; 8vo. New York: D. Appleton and Co., 1899; pp. x., 169, index, 2 plates; eighty illustrations in the text.

As a supplement to the third edition of his work on the diseases of women, Professor Skene in this volume treats of electro-hæmostasis in ovariectomy, myomectomy and abdominal hysterectomy, ovario-salpingectomy, appendectomy, &c., and of the electric cautery in cancer of the uterus, pelvic abscesses, and diseases of the vulva, in extirpation of the mammary and lymphatic glands, in urethral affections

and tumours of the bladder, in hæmorrhoids and in neoplasms of the skin and mucous membrane. We heartily recommend the work as a lucid exposition of the methods by which Professor Skene has had such notable success, particularly so with regard to myomectomy (enucleation). The final chapters on asepsis and antisepsis consist largely of extracts from the work of Mr. Marshall L. Emery, the best Professor Skene has seen on hospital architecture, and Dr. Esra H. Wilson's admirable essay on room disinfection.

TRANSACTIONS OF THE SECTION ON GYNÆCOLOGY OF THE
COLLEGE OF PHYSICIANS OF PHILADELPHIA. Vol. i.,
iv., 1895-1898.

These volumes which we have recently received are reprints from the *American Journal of Obstetrics* of a great part of the valuable gynæcological work of our distinguished American colleagues, C. B. Penrose, J. B. Schober, Barton Cooke Hirst, E. E. Montgomery, E. P. Davis, J. M. Baldy, and many others. In the present form the proceedings are much more accessible for reference, and the volumes will form a handsome addition to any physician's library.

SELBY : A PATHOLOGICAL MORALITY. By EPPIE FRAZER.
London : John Bale, Sons & Danielsson, Ltd., 1899.

We have read this dramatic poem with much interest and enjoyment. For her theme the authoress takes some of the incidents in the life of a country doctor, Selby Frayter, who may be said to sacrifice his life on the altar of lofty ideals. There is a feeling of unreality in the book, and the questions of "pathological morality" which are raised do not suggest that the writer has found a satisfactory solution for them. Nevertheless, the plot is developed along interesting lines, and we can heartily commend the book for the charm of its writing. The verse is of a high order of merit, and in parts is almost Gilbertian in its clever rhyming. The volume is most handsomely got up. We should like to see some more of Eppie Frazer's work.

SUMMARY OF GYNÆCOLOGY, INCLUDING OBSTETRICS.

NOTE.—The editor of the Summary will be greatly obliged if Fellows who would be willing to assist in its preparation would communicate with him, or forward to him *as early as convenient* any condensed notice of Foreign, Colonial or American work they may think worth insertion. As a rule such work should be quite recent, that is to say, should not have remained unnoticed in more than one issue of our Journal.

It is intended to review in each issue the published reports of such gynæcological work by the Fellows of the Society and other British gynæcologists as may not be noticed elsewhere in the Journal; and the Editor of the Summary will be obliged by receiving on a *post card* a condensed account of such work, with a reference to the Journal in which it has appeared.

All communications concerning the summary should be addressed to Dr. J. J. MACAN, Cheam, Surrey.

EIGHTH CONGRESS OF THE GERMAN GYNÆCOLOGICAL SOCIETY, BERLIN, MAY 24-27, 1899.

ON CONSERVATISM AND PROGRESS IN GYNÆCOLOGICAL TREATMENT.

The President, OLSHAUSEN, in opening the proceedings after a lucid exposition of the importance of considering the temperament and age of each patient in deciding upon the method of treatment to be adopted, pointed out that experience teaches us daily what numberless ideas crop up to lead, like the ephemera, a gay but short existence. Conservatism does not imply adherence to all old ways and opposition to all new ones, but the new ones must be carefully proved. And for this the criticism of a sound understanding well trained in medical matters is required. Such criticism assured us, when a 50 per cent. solution of chloride of zinc was recommended for the treatment of uterine hæmorrhage, that in this drug we should be employing a destructive agent the action of which we could not control; on the other hand, the Trendelenburg position was welcomed as an acquisition of practical importance directly it was laid before us. The development of the operations for myoma is an instance that shows how slowly progress forces its way; from the extra-peritoneal way we gradually advanced

to the intra-peritoneal, from the abdominal method to the vaginal.

The extra-peritoneal treatment of the pedicle is perhaps now finally abandoned; the other methods, however, will still be selected according to the circumstances of the case. The differences in the results are due to differences in judging the indications. A very shady side of our times is that new methods for treating any disease are applied to every case that is even called by the same name. For retroflexion of the womb ventrofixation seemed to be entirely set aside for vaginofixation, but the latter was itself soon afterwards completely abandoned; the pessary has not become superfluous. Olshausen was one of the first to use Thomas's pessary, in which, however, the curve was of more importance than the thickness of the posterior loop; he now chiefly employs celluloid rings with the acute curvature of Thomas's pessary.

It is most desirable that serotherapy should be employed in gynæcology; though Marmorek's serum has not fulfilled the hopes it raised, this method of treating septic infection is to be emphatically recommended to the study of trained intellects. Conservatism must preserve old and proved methods and build upon them, but not shudder at novelty merely because it is new. *Erst wägen, dann wagen.*

The number of associates in 1897 was 264, 30 new ones have been added, but in the last two years Hallbertsma, v. Rokitsansky, Wiener, Slaviansky, Parsenow, and Jungbluth have died. The Congress in 1901 will meet at Giessen. The selected subjects are: (a) the radical operations for carcinoma uteri, especially in regard to their permanent results; (b) eclampsia (the normal and pathological imbedding of the ovum was first proposed).

ON THE TREATMENT OF MYOMA.

Report I. By ZWEIFEL (Leipsic).

The medical treatment of myoma is directed against the symptoms, hæmorrhage, pain and increase in size. No internal medicine will permanently control hæmorrhage. In inoperable cases Zweifel prescribes ergot, but not subcutaneously, and for profuse menstruation, stypticin. He has seen much benefit and also much damage from the local use of perchloride of iron, and thinks its injection little less dangerous than myomectomy. Other drugs, such as zinc-chloride, are less effective against hæmorrhage, and only to be preferred for hypersecretion. The curette alone has, in his experience, caused no accident, but its use followed by an injection of iron once caused death from acute peritonitis, probably due to infection from the myoma. Electrolysis with a strong current will relieve hæmorrhage for some months. For pain, apart from narcotics, 25 drops of

fluid extract of *hydrastis canadensis* four times a day, commenced four to five days before the period, may be recommended. Neither drug nor electrolysis will prevent the growth of the tumour, but the extirpation of both ovaries is certain to diminish it.

Vaginal methods of operating are now preferred because of the exaggerated danger of abdominal hernia. At the Leipsic Clinic, after laparotomy with accurate suture in tiers, hernia of, and greater than, the size of a finger tip, only occurred in 4 per cent. of the cases, and then only when the suture of the abdominal wound had suppurated. Zweifel never had a serious hernia after myomectomy. For the conservative vaginal method the tumour must be of moderate size, or, as Veit says, it must still be possible to press the tumour into the small pelvis. Slitting up the cervix facilitates the removal of pedicled tumours; unstalked and larger myomata may be enucleated after dividing the mucosa, but the success of the operation depends upon finding the real bed of the tumour. Pean's morcellement may facilitate the enucleation, and as long as we can make our incisions and insert our forceps within sight, these operations are not very serious, and a single myoma, though it have invaded the pelvic connective tissue, may be shelled out after slitting the vagina.

Dührssen's anterior colpotomy was an important advance in the conservative vaginal operation for small myomata, as was also Doyen's improvement of slitting up the anterior uterine wall so as to be able to apply forceps to its entire thickness. As Bumm recently pointed out, a wide vagina, a movable uterus with the lower pole of the tumour well within reach, is far more important than the absolute size of the growth.

After an historical review of the most important methods of hystero-myomectomy, their development and combination, Zweifel pointed out that the first common principles were the ligation of the ovarian arteries, and the formation of free peritoneal flaps to cover the stump with afterwards. Hofmeier, Goffe, Chrobak, Bär and Olshausen, always aimed at two flaps; Zweifel prefers one only. After applying lateral and median forceps, cutting down to the pelvic floor between them, then clamping the uterine arteries and removing the tumour, if one tries to ligature the several vessels singly under digital compression, the arteries only will spout, the veins for the moment will not bleed, and many will not be secured. Zweifel considers *the ligation of these valveless veins indispensable*; their omission favours the formation of thrombi and emboli; coughing or vomiting forces out blood into the field of operation to form a nutrient medium for unavoidable germs.

The various methods of operating do not, then, differ

fundamentally till we come, after the ligature of the uterine arteries, to the treatment of the stump, when, according to Hofmeier, Chrobak, Bär, Olshausen, Schick and others, the tumour may be cut out with hardly any hæmorrhage; but Zweifel has found in every case that, though the arteries do not spout, blood oozes in jerks out of the open vessels. In the retro-peritoneal method the stump is made as small as possible, while Zweifel amputates the uterus directly below the tumour and therefore much higher up. In the former case the uterine arteries are tied immediately behind the crossing of the ureters, and before the cervico-vaginal branch is given off. Zweifel ties the arteries below this branch, and as it provides collateral circulation for the stump the latter cannot be abandoned without further consideration. The stump, whose nourishment is imperilled by the distant ligature of the trunks of the arteries, is inclined, though invested with peritoneum, to adhere to the intestines, and is a source of danger from ileus.

The retro-peritoneal method (Hofmeier, Chrobak, Bär, &c.), leaving the cauterised stump as small as possible for fear of infection, is a much more radical operation than Zweifel's, in which the entire neck and often part of the body of the uterus is left. On the clear and simple principle of treating the neck of the womb like the pedicle of an ovarian tumour, because, as Döderlein has pointed out, it is germ free, only such modification in securing it is required as will prevent hæmorrhage and shut the stump out of the peritoneal cavity. The modifications of procedure depending on the asepsis of the cervix which Zweifel adopted at a time when they were universally condemned, he has adhered to. By the covering of peritoneum and by the use of thin catgut the nourishment of the part of the stump beyond the ligature is ensured.

Abel found that the ablation of the corpus uteri led to atrophy of the ovaries, and that three years after extirpation of their womb women suffer from symptoms of omission of the menses just as if they had been castrated, but when small portions of the mucosa of the corpus had been left behind, a scanty menstruation continued, and evidently the function of the ovaries also, for there were no symptoms of omission. It is therefore our duty, in every possible instance, to preserve a small portion of the mucosa corporis, and the indication is no longer for "radical" but for conservative myomectomy, and for resection rather than amputation of the womb.

By Zweifel's method, after the round ligaments are secured to the stump and its peritoneal covering completed, the tubes being left outside it to avoid any subsequent pregnancy, the parts resemble a small virgin uterus. All stitching is done in Krönig's way, with cumol catgut.

The shelling out of subserous tumours, abdominal enucleation (the myomectomy of the Americans), introduced by A. Martin, is only suitable when there are but few myomata, and the uterus can be kept comparatively unmutilated. In carrying out the enucleation of tumours which have invaded the parametrium a pedicle is formed for each myoma in a more or less typical way.

Abdominal total extirpation, first performed by Bardenheuer and taken up by Jones and Martin, has been called by Fritsch and Chrobak the myoma operation of the future. No such better results as regards the wounds as were hoped for have been obtained. Moreover several cases are recorded (Savor, Jacobs, Kaufmann) in which the cervix left behind underwent carcinomatous degeneration some time after the operation. Such a coincidence must be rare, and no more justifies the removal of the cervix than the fact that a sound ovary may become diseased would, in an ovariectomy, justify us in removing such an ovary. Abel has proved that, even compared to an ovary, a cervical stump is not useless. Chrobak's bell-sound to elevate the portio facilitates the separation of the bladder and the opening of the vaginal vault, in an abdominal extirpation. Zweifel, after securing the ligaments and detaching the anterior flap, opens the posterior vault, presses up the anterior vaginal wall with the finger pressed below the external os and cuts down on the finger. Upon the angle of the vault and the uterine artery at each side he fixes a Collins' forceps from below; the vaginal wounds do not bleed after this is done. There can be no objection on principle, if there be a displacement, to the portio being previously removed by the vagina, or at least circumcised.

Hegar's castration, since the great improvement in the results of myomectomy, has no great importance. Two of four women castrated in the Leipsic clinic for myomata died six and seven years after the operation from regrowth of the tumours; in one of the cases there was malignant degeneration, a myosarcoma. No doubt the improved technic which now enables us to remove the tumours by means of abdominal enucleation in cases that would formerly have been castrated has led to the disuse of this practice. Fritsch's dictum is convincing; it is illogical to remove healthy organs and leave diseased ones behind.

The statistics of Zweifel's operations published by Blum include the less fortunate results of the experimental period (Lehrjahre), but show only 5 deaths in 122 myomectomies. In 64 subsequent operations he had not a single fatal case; the total mortality has been 2.7 per cent. Including, like Olshausen, only the operations from 1892-1898, there are 132 myomectomies with only 2 deaths, *i.e.*, 1.5 per cent., though

in 14 instances abdominal enucleation was followed by making a pedicle. The last 81 cases (including 18 from Blum) form an unbroken series of successful cases of myomo-hysterectomy. In addition to the above Zweifel has done 16 abdominal total extirpations with 2 and 19 vaginal extirpations with 1 death. No death occurred from embolism, disease of the lungs and kidneys or from shock with brown atrophy of the heart. v. Herff has suggested that these results show unusual good fortune, and that severe desolate cases must seldom find their way to the Leipsic clinic, but in every instance where operation was indicated it was performed, and repeatedly upon women exhausted by hæmorrhage and with anæmic cardiac murmurs. Zweifel has long looked upon shock with brown atrophy of the heart as the most acute form of sepsis, a view in which Küstner concurs. The only case of pulmonary embolism after any gynæcological operation in the Leipsic clinic was after the extirpation of a suppurating Bartholin's duct.

REPORT II. By v. ROSTHORN (Gratz).

(1) *When should myoma be treated?* Very many myomata require no treatment, as they cause no trouble and do not cause any damage to the system, but at any time, even in the climacterium, a myoma may suddenly increase in size and thereby from a clinical standpoint take on a malignant character.

(2) *What treatment should be adopted.* When operation is not immediately demanded by definite indications or vital necessity, palliative measures should be tried, though Rosthorn has not seen much benefit from symptomatic treatment. Neither ergotin, hydrastis, gossypium herbaceum, stypticin nor hot vaginal douches have controlled hæmorrhage. In suitable cases aseptic tamponade of the uterine cavity has had most effect, next to that abrasio mucosæ which he has however seldom employed, and Apostoli's electrical treatment. Castration for hæmorrhage may be justified in debilitated and extremely exhausted patients and in serious affections of important organs (heart, kidneys). The ligature of the arteries as yet is of merely theoretical interest. When troubles are caused by pressure of the increasing tumour, by consequent changes in the adnexa and perimetritic affections, most benefit is to be hoped for from the systematic use of baths, and brine baths are far better than peat. The operative treatment of myomata is as successful as that of ovarian tumours. Conservative methods by which the new growths only are removed and the functions of the internal genitals are not injured are preferable to radical operations. The abdominal enucleation of myomata has, according to Olshausen, a mortality of 13 per cent. The selection of supravaginal amputation or total extirpation depends upon the pedicle.

(3) *The treatment of myomata complicated by pregnancy.* In itself the complication does not indicate operative interference, nor does pregnancy make such interference more difficult or dangerous. v. Rosthorn, in 116 vaginal operations for polypi and submucous myomata, had only one death; he has operated on 231 cases of interstitial and subserous tumours, and lost only 4 out of 122 abdominal amputations with retroperitoneal stump, but 9 out of 56 abdominal total extirpations. It may be noted that 3 of his patients died from heart disease shortly before a proposed operation. Degeneration of the muscular tissue of the heart is frequently met with myoma. In only 9 of the 122 cases of retroperitoneal treatment of the stump did any exudation take place from it—as many as 65 had perimetritic changes before the operation. The abdominal supravaginal amputation is the most preferable operation.

AMANN (Munich).—Hofmeier gives the mortality of supravaginal amputation as 4·2 per cent., that of total extirpation as 9·6, but the results of the latter, especially by the vaginal method, are much better. Amann operates in Doyen's way with subsequent vaginal drainage, choosing this (abdominal) operation especially in large interstitial myomata. He has had only 1 death in 30 cases. He has employed angio-tripsy (crushing the ligaments) with Thumin's lever clamps in 5 cases. In six years he has performed 59 vaginal total extirpations with morcellement without a single death. He holds that the removal of a myoma is only indicated by serious troubles, and that when the tumour is accidentally discovered the patient should not be made aware of it. Enucleation need not be considered except in rare and selected cases.

WERTH (Kiel).—Of 17 cases of supravaginal amputation with conservation of the ovaries, symptoms of omission affected 5 severely, 3 slightly for a few months, and 9 not at all. It is difficult to secure sufficient nourishment for the ovaries after myomotomy, as the chief vessels of the inner genitals, the uterine, and often the spermatic arteries must be ligatured; the ovaries may be stitched closely to the lateral peritoneum.

ON THE LATER RESULTS OF CASTRATION FOR MYOMATA, BY WINTERNITZ (Tubingen).—Sæxinger has castrated 51 cases in 14 years for myomata, and Winternitz has been able to follow up 39. In 3 the operation had no effect, because only 1 ovary was taken away in 2, and in the third some ovarian tissue was left behind; in the other 36 the operation seemed to have been successful for periods of from 3 to 16 years. The successes were therefore 88·8 per cent., the failures 11·2. The size of the tumour was reduced in 83·3, unchanged in 8·3, and increased in 8·3 per cent. In no case were the omission symptoms serious. The radical operation will not be abandoned in spite

of these favourable results, for with it Doederlein has had only 2 deaths in 100 cases.

L. LANDAU (Berlin).—The importance of cachexia ovari-priva is greatly exaggerated. Conservatism must not be pushed so far as the preservation of disease. The great variety in the histological character of myomata is important in regard to operation. One may enucleate the ordinary spherical myoma but not an adeno-myoma. Landau has met with one instance of a new species of myoma, a cystic nodular papillary myoma, and also adenomyoma of the rectovaginal septum, a form for which Pick proposed the name mesonephric myoma. Other forms, which take the place of part of the uterine wall, it is also impossible to enucleate so as to save the uterus itself. He spoke in favour of the piecemeal vaginal operation, a procedure no more agreeable than perforation of a dead fœtus, but sound all the same. The hæmorrhage may be avoided. It is of course desirable to preserve part of the uterus, but it is not always possible. He also praised Doyen's method, which isolates the uterus before and behind, and, like the vaginal operation, liberates the broad ligaments.

KÜSTNER (Breslau).—Vaginal methods are less dangerous than abdominal, but, though the chief danger of the latter is attributed to shock, as a matter of fact infection of the peritoneum, even when there are no clinical or *post-mortem* signs of peritonitis, is very often the real cause of death. Autopsies of fatal cases ought to include bacteriological examination of the secretion of the cavity.

CZEMPIN (Berlin) had seen benefit from the palliative treatment of hæmorrhage with stypticin, and in two instances gangrene of the tumours after curettage.

GOTTSCHALK (Berlin) insisted on the degeneration of the myocardium frequently associated with myoma. The vaginal ligature of the uterine arteries in suitable cases was to be recommended. He had found it very successful in 15 out of 16; in 7 the hæmorrhage ceased altogether.

FEHLING (Halle) had repeatedly found injections of ergotin diminish both growth and hæmorrhage; in patients bled to extreme anæmia, or with kidney disease, he performed castration.

SCHAUTA (Vienna), for radical operation, preferred the vaginal method, and in 146 cases had only 5 deaths. The preservation of the ovaries in vaginal operations seems to be of little use. In 7 or 8 cases in which one ovary was left, severe omission symptoms appeared from two months to three years after operation, and omission symptoms also occurred in 8 out of 12 where both ovaries were left.

CHROBAK (Vienna) had found ergotin beneficial in conjunction with iodised brine baths, and the introduction of perfectly dry

liquor ferri gauze repeatedly serviceable in obstinate hæmorrhage. He was against preliminary intrauterine treatment, and had seen 5 cases of necrosis of the tumour after the use of electricity. He had had only 4 deaths in 97 vaginal enucleations; 5 deaths only in 120 vaginal total extirpations in the clinic—the last 70 without a fatal case; in between 40 and 50 cases in his private practice he had one death only, though these cases had generally undergone many examinations previously, and were technically more difficult. As an instance of the difficulty of securing asepsis, he mentioned that on one occasion he found that the charwomen who cleaned the operation room had previously used the same cloths in the pathological institute. He preferred the vaginal method, but when that was too difficult or uncertain, adopted the abdominal. Absolute arrest of hæmorrhage was indispensable for good results, and in supravaginal amputation a good peritoneal covering for the stump.

FREUND (Strasburg), in 72 cases of myoma saw 4 of sarcomatous degeneration and 1 sarcoma of the ovary; moreover, 4 operation cases afterwards died from carcinoma. Constitutional anomalies, and diseases of the heart and blood vessels, and of the kidneys, are very commonly associated with myomata, which on this account are of a character far less innocent than is generally supposed.

WERTHEIM (Vienna).—The piecemeal removal of large myomata by the vagina should not be attempted in very anæmic women, as it causes much hæmorrhage; the vaginal method is not adapted for intra-ligamentary tumours, nor for such as are not easily moved, nor when the portio is dragged high up. In 27 of 54 cases he operated by the vagina, and was obliged to complete the operation by the abdomen in only two.

VEIT (Leyden) considered vaginal total extirpation to be superior to supra-vaginal amputation. If no capsule was found at the first part of the tumour reached there was probably not one anywhere else. In the absence of symptoms no myoma of less size than a walnut required operation.

FRITSCH (Bonn) removes both ovaries and seldom meets with omission symptoms, which principally affect hysterical subjects. The ovaries if left suffer from congestion and swelling, and consequent adhesions. To avoid recurrence, exudation or degeneration, he leaves the uterine stump as small as possible, and in a patient exhausted by hæmorrhage, would prefer a vaginal operation lasting an hour to an abdominal one of only ten minutes.

MACKENRODT (Berlin) met with 8 cases of carcinomatous disease, 5 affecting the corpus, in 104 cases of myoma. He advocated total extirpation. Angiotripsy was dangerous to the ureters.

OLSHAUSEN (president) would not inform a patient of the presence of any myoma that did not give trouble, even though some one else next day might tell her that he had overlooked it. A perforating ulcer of the stomach, or more rarely of the small intestines, consequent on an embolus, may cause death weeks after any laparotomy, and the embolus, or at any rate the ulcer, may be connected with the operation. Carcinomatous disease of the stump may quite possibly be dependent on the insufficient nourishment of the portio consequent on the ligature of the vessels.

In replying, v. ROSTHORN said that the conclusions to be drawn from the discussion were that medical treatment was beneficial in many cases, but was insufficient as a general method. Electrical treatment altogether abandoned. More exact histological investigation of every myoma is desirable. He concurred with Wertheim as to the limits of vaginal operation. Extirpation or amputation depended on the individual case.

W. ROGER WILLIAMS (*Bristol Medico-Chirurgical Journal*, 1899, March), says that not more than one-fifth of all cases ever need active surgical intervention. Vaginal removal should only be attempted when complete extirpation seems feasible. Enucleation is described and favoured. Abdominal section must be the route for removal of tumours of the largest size, of sub-peritoneal tumours, of interstitial tumours of abdominal evolution, of intra-ligamentous myomata and of submucous tumours too large for removal per vaginam. Abdominal enucleation is to be preferred if possible. Should the uterine cavity be opened it may be closed with a continuous catgut suture.

J. F. J.

THE OPERATIVE TREATMENT OF LARGE MYOMATA OF THE CERVIX.

By H. LÖHLEIN (Giessen). *Deutsche Med. Wochen.*, 1899, No. 16.

Primary myomata of the cervix constitute about 4 per cent. of all uterine myomata. Löhlein reports four cases all treated by laparotomy. As a rule total extirpation is indicated, but in one of the four the radical operation had to be abandoned, and castration was performed with such good effect that now after two years the tumour has diminished from the size of a man's head to that of a small fist.

A CASE OF HYSTERECTOMY FOR FIBROID TUMOUR OF UTERUS WITH INTRA-ABDOMINAL TREATMENT OF PEDICLE.

By W. H. C. NEWNHAM. *Bristol Med. Chir. J.*, 1899, March.

The tumour grew from the fundus of the uterus, and was removed with the fundus, flaps were made from the body of the

uterus, and were sutured together in the pedicle. From the report the operation seems to be more of a myomectomy than a hysterectomy. The result was most successful. J. F. J.

ON MODERN OPERATIONS FOR MYOMATA.

By CZEMPIN (Berlin). *Berlin Med. Soc.*, June 7, 1899.

The want of confidence still felt by medical practitioners in the operative treatment of myomata must be attributed to the fatality which at first attended it (30 per cent. mortality), but is partly due to underestimating the danger of a myoma. Yet it is not unusual for a myoma to be combined with a malignant new growth, or to become itself malignant or sarcomatous, and even the apparently favourable chance of spontaneous out-casting is often a source of danger, for the half-born tumour may putrefy and cause general infection. The author had had splendid results since he had adopted A. Martin's method of operating by the abdominal way and removing the whole uterus, viz., 22 cases without a death. In intraligamentary myomata the danger was extreme from the receptivity of the pelvic connective tissue to infection; he had lost 3 out of 5 such cases.

ON THE PERMANENT RESULTS OF ZWEIFEL'S MYOMECTOMY.

By GEORGE ABEL (Leipsic). *Archiv. f. Gyn.*, Bd. lvii., S. 261.

This article, like that recently published by Hofmeier, is in favour of supra-vaginal amputation rather than abdominal total extirpation. Seventy-one cases of supra-vaginal amputation of the myomatous uterus, operated on in Zweifel's method between 1887 and 1894, have been under observation for from two to ten years. Of four women who were castrated two died from malignant degeneration of the myoma after the castration; in a third, serious hæmorrhage was caused by the vaginal expulsion of the myoma. After supra-vaginal amputation, contrary to Martin's statements, the uterine stump did not cause any definite trouble. Abel never met with malignant degeneration of the stump; no doubt a fatal myo-sarcoma may originate from the stump if the primary myoma be sarcomatous. The ovaries undergo secondary atrophy after the removal of the uterus, but the transition to the climax is more gradual than after castration; and it is very seldom that any danger arises from not removing the ovaries (e.g., cystic degeneration). It is, according to Abel, very desirable to leave a part of the lower segment of the uterus behind with the ovaries to ward off the atrophy of the latter and the occurrence of symptoms of omission, and, as Schröder advised, no more of the uterus should be removed than is absolutely necessary.

THE HISTOGENESIS AND PATHOGENESIS OF UTERINE MYOMA.
By Dr. TRIDONDANI. *Annali di Ost. e Gin.*, May, 1899.

After describing his histological and pathological investigations and alluding to previous authorities, among whom he quotes Mr. Lawson Tait as having been of the opinion that an artery was the nucleus of the growth, the writer gives the following summary of his researches and conceptions of the question:—

(1) Uterine myomata take their origin from the muscular coat of the small uterine arteries. These vessels pass directly into the zone of tissue, so very rich in elastic fibres, surrounding the neoplastic nodule which grows by the opposition of new strata of muscle arising from the peripheric vessels.

(2) These tumours do not represent the products of irritative or inflammatory processes, nor the results of proliferating congenital germinal tissues, but are a pathological expression of the formative activity innate in the genital system and having its most evident manifestation in the uterus.

FRED EDGE.

MYOMA AND ADENOMYOMA.

By L. LANDAU. *Berlin Medical Society*, May 10 and 17, 1899.

Our knowledge about myomata of the female genitals has been greatly advanced of late years, especially by the publications of Recklinghausen and Freund upon Adenomyoma. The investigations of the former show that these adenomyomata develop from remnants of Müller's ducts, and this is supported by their situation, *e.g.*, at the isthmus of the tube. They are also met with in the ligamentum teres, in the vaginal vault, in the ligamentum latum and elsewhere, and the author illustrated these conditions by a number of specimens and drawings.

In those derived from mucous membrane, that membrane passes unbroken into the muscular tissue in which epithelial cysts are to be found. They are not to be confounded with the histoid globular tumours or kugelmyomata, which issue from the muscular tissue, and in Virchow's opinion are consequent to inflammatory irritation. But little is known about them.

Of the myomata called organic in distinction to the histoid or kugelmyomata, no definite clinical type can be drawn, and it is not, as Freund thinks, at all possible to say beforehand whether a case will prove one of ordinary or adeno myoma.

It must be remembered as regards treatment that many myomata give no trouble at all, and it is better to say nothing about them to the patient. Moreover, it is not the largest that give most trouble, but those of moderate or small dimensions.

The treatment should when possible be conservative ;

palliative measures may be adopted, and the hæmorrhage diminished by depletory methods, the use of purgatives, &c., before menstruation. The use of the curette and vaporisation in the cavity of the uterus, which is often much elongated and embayed, are by no means free from danger.

That the hæmorrhages cease with the menopause is merely a fable, and measures to bring it about, castration especially, are unjustifiable, besides which they are often very difficult to carry out.

In operating on the larger tumours the author sometimes chooses the abdominal way, sometimes the piecemeal vaginal one.

THE TECHNIQUE OF OPERATIONS ON THE BROAD LIGAMENTS.

By B. A. PETROFF. *Vratch*, April 10, 1899.

The operative methods at present in vogue dealing with new growths in the broad ligaments may be designated as weak and somewhat defective. Three methods may be described:—(1) suture of the sack or space to the abdominal wound (Schröder); (2) ligature of the vessels supplying the sac and contraction of the remaining portions of the broad ligament by purse-string suturing (Lebedeff); (3) drainage after operation by the (*a*) abdominal or (*b*) vaginal route. The first and the third (in both subdivisions) methods protract convalescence and are inconvenient; both in my own and other surgeons' work I have seen cases where the opening did not close for six to eight months.

The method of my master, Professor Lebedeff cannot always be carried out, because, firstly, in some cases the one layer of the broad ligament may be carried away with the growth, and consequently the pursing up of the space is not possible on one side, and secondly, the new growth may be in a very awkward position, so that the sack closes unequally or imperfectly, and loops of bowel or the vermiform appendix may become adherent through plastic inflammation, and discomfort, pain, disorders of digestion and peristalsis or even obstruction may ensue.

To avoid these inconveniences and dangers, I adopted the following procedure in two cases where one layer of the broad ligament had been destroyed, but I may say that in a third case I should deliberately remove or shorten one layer of the broad ligament to facilitate the procedure, which is equally available for solid (fibroid or sarcomatous) or cystic growths of the broad ligament.

Procedure.—After opening the abdomen and the broad ligament and enucleating the tumour out of its bed, I was able in both cases to free the anterior layer completely, while the posterior was so thin and adherent that it came away with the

tumour. A deep open wound surface extending downwards and backwards was left in both cases which it was impossible to close by suture on account of its depth and position in the pelvis. The insertion of a gauze tampon to keep the bowels from the upper surface of the wound and the extraction of this tampon through the vaginal or abdominal wound is not very hopeful from an aseptic point of view; moreover, the post-operative period is prolonged. I therefore made a transverse incision in the floor of Douglas' pouch, cutting upon the finger introduced into the vagina (the remnant of the posterior layer of the broad ligament was trimmed off, but this is not necessary, as it may be turned down under the anterior layer and will not spoil the result). The anterior layer was then secured by a long ligature and drawn through this transverse incision into the vagina. In this way all the wound surface (of the cut away posterior layer) and the extensive raw posterior surface of the anterior layer were covered in, as if they had never existed, and the coils of intestines could be dropped without any anxiety. The parts drawn downwards were sutured to the vault of vagina to prevent their escape and the exposure of the wound surface to the belly cavity. The parts in the vagina contracted so quickly (in a day or two) that there was no necessity to cut them short. But if they do not contract they can be cut down to level of vaginal vault later on.

The advantages of this method are that: (1) the wound surface is covered with its own proper tissue; (2) all mobile viscera are safe from the possibility of becoming fixed by adhesions, since the wound is clothed with uninjured peritoneum; (3) the wound is immediately closed; (4) if any inflammation occurs in the seat of the operation it will be extra-peritoneal and free access to it will exist through the vagina; (5) the operation and post-operative course are distinctly lightened and relieved.

Both cases have done very well. The uterus two years later is in normal condition, and there are no after symptoms at all, neither objective nor subjective, unless the scar in vagina and abdominal cicatrix be counted as such.

FRED EDGE.

REVIEW OF 300 ABDOMINAL OPERATIONS.

By E. EHRENDÖRFER (Innsbruck).

Wiener k. Wchns., 1899, No. 16.

This report comes from the Innsbruck Frauenklinik, and chiefly refers to cases dealt with in the last five to six years. In addition to full statistics of the operations, the author gives an interesting account of the management of sepsis, the method of anæsthesia (pure chloroform as yet without accident), and

details of operations. In dividing the abdominal walls, spouting vessels were merely twisted; silk only was used for ligatures *en masse*; the peritoneum was stitched with thin silk, and before closing the abdomen any air it contained was pressed out. Catgut was hardly used, except in plastic operations in the vagina. After narcosis the patient was given inhalations of vinegar to overcome the subsequent nausea. All ovariectomies were done by the abdominal way. Of the patients who were operated on for uterine carcinoma up to 1893, one quarter are still alive and without recurrence. The total mortality of the ventral laparotomies was about 9, that proper to the operation only 3 per cent.

ONE HUNDRED CASES OF ABDOMINAL SECTION (Second Series).
By ALFRED SMITH. *Dublin Journal of Medical Science*, 1899.
February.

This is a record of abdominal surgery since May, 1896, with a mortality of 2 per cent. Several very interesting cases are recorded, especially of retro-peritoneal hysterectomy and pan-hysterectomy. In not one of the hundred cases was a drain used. The author has given up using belts after the operations.

J. F. J.

THE UTERUS AGAIN.

By E. F. FISH, M.D. *Ann. of Gyn. and Ped.*, Boston, 1899, March.

Conservative surgery is no new fad, but is coincident with the history of medicine. It is only since the revelations of asepsis that surgeons have grown bold in abdominal work, and the devastation of the female pelvis has been the end. The author, while as much in favour of radical work as anyone when such work is necessary, as much in favour of the ablation of diseased organs as anyone when these organs cannot be cured, and are a source of misery and a menace to life, protests against the unnecessary "ablation of diseased organs," a proceeding no one would advocate or practice unless he was convinced that such organs could not be cured. The author would preserve the uterus because it is an important sexual organ in its natural site, and consequently not in the way of any other pelvic organ; it preserves the vaginal vault, and when in suspension maintains the contour and natural length of the vagina; it precludes the possibility of vaginal hernia, and prevents prolapsus vaginæ; it minimises nervous shock and depressing mental manifestations; it maintains the pelvic diaphragm, and in the event of successful ovarian transplantation it might be reinstated as an organ of procreation.

J. F. J.

OVARIAN TUMOUR REMOVED DURING THE ACUTE STAGE OF TYPHOID FEVER. By E. W. CUSHING, M.D. *Ann. of Gyn. and Ped.*, Boston, 1899, March.

The patient, at the age of 11 years and 10 months, was taken ill on April 12, 1893, and went to bed on the 15th, with a temperature of 105° F. Respiration was much impeded by an abdominal swelling, which had been noticed for five months. On April 18, when her temperature was 104° F., and rose spots were clearly seen, a large cyst of one ovary, and the other ovary, also cystic, were removed. Recovery from the operation was uninterrupted, but thirteen days after it there were thirteen hæmorrhages from the intestine. She was ill over three months, but finally recovered, and now, at the age of 18, is in perfect health. As far as can be ascertained from her mother, she does not feel at all different from girls of her age, although both ovaries were removed before puberty.

J. F. J.

REMARKS ON OÖPHORECTOMY IN THE TREATMENT OF CANCER OF THE BREAST.

By STANLEY BOYD. *British Med. Jour.*, 1899, Feb. 4.

Of five cases previously reported notes are given up to date, and two more are added to the list. The beneficial effect of the oöphorectomy was indubitable in two, probable in two others, and absent or very doubtful in three. Two cases where the oöphorectomy was done after the climacteric were not benefited. The cases also afford evidence that thyroid has little or no action upon the disease.

J. F. J.

A SECOND CASE IN WHICH RECURRENT MAMMARY CANCER DISAPPEARED AFTER TREATMENT BY OÖPHORECTOMY AND THYROID EXTRACT. By G. ERNEST HERMAN. *Lancet*, 1899, April 22.

A report, up-to-date, of Dr. Herman's first case (*Lancet*, 1898, June 11) shows a continuance of good health. This second case shows marked disappearance of recurrence, with a steady increase in the patient's weight. The combination of oöphorectomy with thyroid extract gives greater benefit than either of them separately.

J. F. J.

THE HEALTH OF WOMEN AFTER OVARIOTOMY.

By MARTIN. *Greifswald Med. Soc.*, May 6, 1899.

The bad effects of the operation may be traced to (1) intestinal adhesions, (2) stretching of cicatrices, or (3) omission

symptoms. Intestinal adhesions sometimes form, though the healing of the wound has been uninterrupted and apyretic, and afterwards under certain conditions lead to serious derangement of the digestive system, or even to symptoms of ileus.

Stretching of the cicatrix was extremely common before the days of antiseptis, and even now cannot be invariably avoided. The cicatrices are very much better now that the abdominal wall is stitched in layers and not in one thickness, and according to Abel stretching has declined from 29 to 8 per cent. According to Kippenberg, Martin had irregularities in the cicatrix in 41 per cent. of 350 cases, but in only 8·9 per cent. of 89 cases since the suture was in layers. Rigid asepsis and careful stitching of the several layers are essential for a firm cicatrix. Martin differs from Abel as to the general condition of the woman being of greater importance than the state of the abdominal scar. The troubles caused by abdominal hernia are extremely various and quite independent of its size; they are sometimes so serious that a second operation and the sewing together of the edges of the aperture must be undertaken for their relief.

The symptoms due to omission of menstruation after bilateral ovariectomy are identical with those marking the course of a stormy climacteric, and are at times very tormenting. They may often be avoided by leaving a little bit of ovary behind. The administration of ovarin tablets has benefited some cases, but it is no specific, and the result is doubtful.

A CONTRIBUTION TO THE ÆTIOLOGICAL STATISTICS OF UTERINE CANCER.

By FRITZ BLUMENFELD (Munich).
Münch. Med. Wochenschrift, 1899, No. 13.

In the Munich Frauenklinik 678 cases of cancer of the womb came under observation in the fourteen years preceding July, 1898. The mean age of the patients was 45·05 years; the youngest was 24, the oldest 73.

Of Gusserow's 2265 collected cases 2 were under 20 years of age: their distribution in decades compared with the Munich cases is as follows:

Age	...	...	20-30	30-40	40-50	50-60	60-70	over 70
Gusserow	...	...	3·5%	21·0%	34·4%	25·5%	11·3%	3·7%
Munich	...	...	3·7%	27·5%	39·1%	24·4%	4·8%	0·1%

As Gusserow's cases occurred before 1880, it would appear that uterine carcinoma affects young women more frequently now than formerly, though the age most affected remains between 40 and 50 years.

In the six years 1892 to 1898, 400 cases were seen at the Munich Clinic, in 1885 to 1891 only 250, a fact which supports the alleged increasing frequency of the disease, but which may be dependent on improved methods of examination.

Only 17 cases were primary carcinoma of the corpus uteri, or 2·5 per cent.; the average age of these 17 was 49·4 years compared with 45·05 for all the cases. Only 3 were nulliparæ, the average fertility of the other 14 was 5·07. No exact distinction between carcinoma of the portio and of the cervix can be made from the records, but the larger number affected the cervix. The direction of extension was generally towards the vagina, or parametrium, not so often to the bladder and most rarely to the rectum.

The average age of the first menstruation of these 678 women was 14·8, which does not indicate any relation between cancer and premature menstruation. In only 9 per cent. are menstrual troubles (dysmenorrhœa, menorrhagia) recorded three years before the appearance of the disease. Such troubles occurring later might well be the first symptoms of cancer. Nor did the menopause appear to exercise any ætiological influence. The average age of its occurrence (recorded in 128 cases), was 47·4. Of the 678 women 405 were affected before 47 years old, only 273 after that age; 188 were affected between 40 and 46, and only 135 between 47 and 53.

As regards the influence of childbearing, only 25 women were sterile, the others had on an average conceived 5·7 times, but 86 only once, 216 twice to four times (pluriparæ, average 2·7), 357 more than 4 times (multiparæ, average 8·8). It would seem that the predisposition to cancer increased with the number of conceptions. Blumenfeld also concludes that little ætiological importance can be attributed to interrupted pregnancy, least of all to abortion from specific causes; that inflammatory affections do cause predisposition, and that difficult or instrumental labour, and laceration of the cervix, certainly do so.

Heredity of cancer as such was comparatively rare, but a history of tuberculosis was remarkably common, though few of these women were affected by it, but had merely inherited from their parents the predisposition to infectious disease. The immensely greater frequency of collum carcinoma may depend on the neck of the womb more easily contracting a cancerous infection.

A NEW METHOD OF OPERATING FOR UTERINE CARCINOMA.

By EMILE RIES (Chicago). *Zeitschrift f. Geb. u. Gyn.*,
Bd. xxxvii., S. 518.

Recognising that the lymphatics are very soon affected by cancer of the corpus and especially of the collum uteri, and before it is possible to discover it clinically, Ries recommends that in every case the iliac glands with the surrounding connective tissue should be entirely removed.

His method comprises two operations: in the first, the vaginal walls are divided by a circular incision; in the second, after opening the abdomen in the middle line and finding the great iliac vessels, the peritoneum is opened by an incision along the common iliac artery, this vessel is exposed by blunt dissection, the ureter is found and isolated down to its insertion in the bladder, the broad ligament being ligatured on the one side close to the pelvis and on the uterine side secured where necessary by forceps. The two branches of the uterine artery are thus exposed to view, and divided after ligature. By blunt dissection between the internal and external iliac they are freed from their surrounding connective tissue, and the whole of this fatty connective tissue with the glands in it is taken away. After this has been done on one side, the adhesions between the uterus and rectum are separated, those in the Douglas pouch are divided near the rectum, and the sacro-uterine ligaments, which often contain degenerated lymphatics and glands are cut through as far from the uterus as possible. When the whole of the above process has been repeated on the other side, the anterior and posterior culs-de-sac are dissected out, a circular incision is made in the vaginal walls and the uterus and the adnexa removed. To close the peritoneal cavity the peritoneum on the one side is stitched to that on the other, and the vesical investment to the rectal.

Ries has employed this method in one case of cancer of the neck and another of the corpus. In each the operation lasted about three hours and both did extremely well.

ON THE METHODS AND INDICATIONS FOR TOTAL EXTIRPATION OF THE UTERUS, ESPECIALLY IN REGARD TO THE TREATMENT OF UTERINE CARCINOMA. With an Appendix on Experiments by Injections in the limbs and organs of living animals.

By FREUND. *Hegar's Beiträge f. Geb. u. Gyn.*, Bd. i., Heft. 3.

The author discusses the various methods of extirpating the uterus, and concludes that, while the vaginal method is to be preferred for cases with less rigid indications, in dealing with cancer of the uterus or cervix, only abdominal laparotomy allows

us to operate in sound tissue and renders it possible to clear out the lymphatic glands of the part (infiltrated or not). He considers that the vaginal operation should only be done in carcinoma originating from the outer surface of the portio, and not yet greatly extended. On the other hand, vaginal extirpation may be done as a palliative operation when radical interference is out of the question. He has no faith in any drug as a cure for cancer; alkalis are, however, said to be very detrimental to cancer cells. After extremely laborious experiments on animals he tried excluding the cancerous organ from the circulation for a considerable time and irrigating it with a solution containing table-salt, sugar, extract of leeches' heads, but hitherto without any success.

CLINICAL DATA RELATING TO CANCER OF THE UTERUS.
By ANDREW F. CURRIER, M.D. (New York). *Amer. Jour. Obst.*,
1899, May.

This paper gives a clear exposition of the clinical symptoms of cancer of the uterus, and of the reasons why the disease so often attracts no attention till it is too late to take any curative steps. There is absence of pain in many cases, and there may be an advanced state of cancer in a woman looking and feeling the picture of health, except, perhaps, for hæmorrhage from the uterus. The cachexia, pallor, and wax-like countenance may not come on till very late. It cannot too often be repeated that an abundant hæmorrhage at the time of the menopause and subsequently should call for a rigid investigation. The discharge of fluid from the uterus and vagina is less likely to arouse attention than hæmorrhage. Before the end comes the ureters and kidneys become involved. Surgical treatment is the only one likely to be of any avail, and in cases of recurrence measures should be taken to diminish the discharge, and to ease the patient as much as possible.

J. F. J.

UTERINE CANCER AND ITS TREATMENT.
By Dr. MORE MADDEN. *Medical Press and Circular*, 1899, May 31.

Reliance is placed on timely amputation of the cervix. Out of 31 cases recorded, in 10 cases there was no return in four years, and in some no recurrence in ten years.

J. F. J.

ON A CASE OF MALIGNANT CHANGE OF THE CHORIONIC
EPITHELIUM.

PROCHOWNICK and E. ROSENFELD.
Archiv. f. Gyn., Bd. lviii., S. 103.

Prochownick concludes, in the clinical part, that for diagnosis the syndromata must as far as possible agree with the microscope.

Rosenfeld from the specimens holds the syncytium to be of maternal, and Langhan's layer of cells of foetal origin.

ON HÆMATOMOUS MOLE AND THE SO-CALLED TUBEROUS SUB-CHORIONIC HÆMATOMA OF THE DECIDUA.

GOTTSCHALK. *Archiv. f. Gyn.*, Bd. lviii., S. 134.

Gottschalk considers "tuberous subchorionic hæmatoma" a wide description, and would have that form of the disease first described by Breus called "hæmatom-mole."

TWO CASES OF TUMOURS OF THE CHORIONIC EPITHELIUM.

By FR. SCHLAGENHAUFER (Vienna).

Wiener k. Wchns., 1899, No. 18.

On the ground of two detailed cases the author concludes that, clinically, two forms of these tumours must be recognised. One most malignant, quickly leading to metastases and a fatal termination, and another innocent from its commencement. Histologically the two forms cannot yet be distinguished, both being typical chorionic epithelium, as described by Marchand.

In the first case described, a woman of 38, after an abortion the metastasis of a chorionic epithelioma was found in the vagina, and, at first taken to be a vaginal varix, was extirpated. The patient recovered, and has remained well two and a half years.

In the second case the histological appearances were identically the same, but the patient, 27 years of age, died very soon afterwards from pulmonary metastases.

AN INVESTIGATION OF THE SO-CALLED ADENOMA MALIGNUM, ESPECIALLY AS AFFECTING THE CERVIX UTERI, WITH REMARKS UPON TRANSPLANTATIONS INTO THE VAGINA.

By ED. KAUFMANN. *Virchow's Archiv.*, Bd. cliv., Hft. 1.

An exhaustive examination of a cervical carcinoma and its metastases leads the author to conclude that the so-called malignant adenoma is to be looked upon as an adeno-carcinoma in which the adenomatous structure is especially persistent or, as regards metastasis, recurrent, and that in all probability there is no such thing as true malignant adenoma in pathological anatomy.

Transplantation metastases may be simulated by metastases through the lymph canals which have established themselves at some distance from the original seat of the cancer.

THE TUMOURS OF GARTNER'S DUCTS.

By G. KLEIN. *Virchow's Archiv.*, Bd. cliv., Hft. 1.

A monograph upon the embryological significance of Gartner's ducts and their new growths, with a compilation of

the tumours which have been referred to these ducts. Cysts, and perhaps papillomatous cystoma of the ligamenta lata; cysts, cysto- and adeno-myomata, cystic and true adenomata and adeno-carcinoma of the uterus; cysts and adenomyoma of the vagina and cysts of the hymen.

ADENOMYOMA OF THE ILIAC REGION AND POSTERIOR VAGINAL VAULT AND ITS RELATION TO VON RECKLINGHAUSEN'S PAROVIAN ADENOMYOMA OF THE WALLS OF THE UTERUS AND TUBES.

By L. PICK (Berlin). *Archiv. f. Gyn.*, Bd. lvii., S. 461.

On the basis of a thorough examination of a new case and comparison of it with others, as well as of a critical study of the anamneses of their development, the author concludes that the glands and cysts of the iliac region and posterior vaginal vault are embryologically derived from scattered paroöphoral segments of the Wolffian body, and contests the view of Kossmann, who attributed to Müller's ducts the origin of the adenomyoma of the uterine and tubal walls described by von Recklinghausen, and by him referred to the Wolffian body.

ON THE HISTOGENESIS OF DERMOID CYSTOMA AND TERATOMA OF THE OVARY.

By P. KROEMER (Breslau). *Archiv. f. Gyn.*, Bd. lvii., S. 322.

An exhaustive macro- and micro-scopical investigation of eleven ovarian dermoids and teratomata justifies the theory put forward by Wilms and Pfannenstiel, that dermoids and teratomata of the ovary are ovulogenous tumours, that is to say, they are developed from the cells of the ovum; and that simple cystomata co-existing in connection with the dermoid generally develop from the follicles. The fact that every dermoid comprises derivatives of each of the three germinal layers is a proof of its ovulogenous origin. The development in one case of a sort of unclosed uterus (Müller's duct) is most noteworthy. Regnier, indeed, in one case found a complete skeleton, up to the present the most complete foetal structure yet found in any dermoid. Without a viable being there can be no question of pathogenesis. The article, which is extremely well illustrated, formed the author's inaugural dissertation at Breslau.

DERMOID CYST OF A SUPERNUMERARY OVARY WITH MALIGNANT (PERITHELIAL) DEGENERATION OF THE WALL OF THE CYST.

SIEGFRIED NEUMANN. *Archiv. f. Gyn.*, Bd. lviii., S. 185.

Peritheliomata develop round the blood-vessels, of and below medium size, and capillaries, from the external elements of the vascular walls. These tumours in many of their character-

istics correspond to sarcomata, but can be readily distinguished from carcinoma. The question of the embryological and histological character of the perithelial cells Neumann leaves undecided. Histologically the tumour must be considered malignant.

AN UNUSUAL CYST OF THE ROUND LIGAMENT.

By A. V. GUBAROFF (Moscow). *Centralblatt f. Gyn.*, 1899, No. 15.

A movable cyst in the abdominal cavity in a nullipara of 22, at first taken to be a parovarian cyst, was successfully removed by laparotomy. Although it had developed from the round ligament, it had not, as is usual in such cysts, developed in or beyond the inguinal canal.

THE SURGICAL TREATMENT OF PELVIC INFLAMMATORY LESIONS
BY ABDOMINAL SECTION.

By J. M. BALDY, M.D. *Amer. Jour. Obst.*, 1899, May.

Except for one class of cases the author prefers the abdominal route for the treatment of pelvic inflammatory lesions. The exception is the acute pelvic abscess in which pus is free in the pelvis, and included in this class are cases of pyosalpinx and ovarian abscess where there is bulging into the vagina. The author's personal experience has been the main factor in determining his opinion in favour of the abdominal route. Shock after abdominal section is almost, if not quite, unknown to him. Out of seventy-three cases recorded, in only one was shock severe enough to cause any anxiety, and be it noted, too, that these seventy-three were cases of the more severe kind, all the mild cases being eliminated. The few cases of hernia of the scar occurred in those on whom the old through-and-through suture was used. With the new method of suturing in layers no herniæ have occurred. The author does not get his abdominal sections out of bed as soon as most surgeons get their vaginal sections out, not because he cannot, but because he believes in a month's rest after section, whether abdominal or vaginal.

His mortality is two deaths in the seventy-three cases. Drainage was only required in eight cases. The author thinks that in favour of the abdominal route are also the two facts that a completed operation is always possible and that the technique of the abdominal operation is much more easy than that by the vagina.

J. F. J.

A CONTRIBUTION TO THE TREATMENT OF PUS IN THE PELVIS.

By J. FURNEAUX JORDAN. *Brit. Med. Jour.*, 1899, Jan. 21.

The author advocates free vaginal incision and drainage in cases of pyosalpinx of long-standing when the pyosalpinx

occupies Douglas' pouch, if its formation has been occupied by recurrent attacks of pelvic peritonitis, and if the patient is in a hectic condition from prolonged septic poisoning and is not in a good condition to stand the more difficult operation of complete removal per abdomen.

VAGINAL ABLATION IN PELVIC INFLAMMATION.

By WM. R. PRYOR, M.D. *American Jour. Obst.*, 1899, May.

The definition of the operation is so clearly given by Dr. Pryor that it is best to give his own words: "Vaginal extirpation of the ovaries, tubes and uterus is accomplished by the formation of four pedicles. These pedicles are secured by forceps and slough, therefore they must be treated extraperitoneally. There is a similarity between this operation and the old suprapubic hysterectomy with the extraperitoneal treatment of the stump, but with this difference, that in the old operation the collection of the discharge was against gravity, whereas in the vaginal operation drainage is facilitated by the posture and anatomy of the body." The operation is then described: The first step, after incision of the mucous membrane, is to split the uterus in the middle line into two halves. Each half with its adnexa can be dealt with separately, free from any attachment to the other. One half of the uterus is shoved up into the pelvis, the other is drawn down. This latter will come down from beneath the bladder, and be outside the body. The fingers passed in behind this half will be behind the corresponding half of the broad ligament, and can separate adhesions of the adnexa with ease. The appendages liberated, they are returned, with their half of the uterus, into the pelvis. The appendages of the opposite side are freed in the same way. Two forceps are now applied to the broad ligament, one to clamp the ovarian artery from above down, incision down to its point, and the other in the same way to clamp the uterine, and the appendages with half the uterus removed. The other side is clamped and amputated in the same way. On each side iodoform gauze is introduced between the forceps and the vagina. The vagina is filled with gauze, which must be neatly packed up to beyond the points of the forceps. The forceps are taken off in forty-eight hours. The first dressing is made in from seven to twelve days. The advantages of the vaginal route are fully set forth. The most important of these is that the vaginal operation is essentially an operation upon the pelvic contents only. The vaginal operation is the operation of election in all cases of pelvic suppuration where the vermiform appendix does not require removal, and where there is no fistulous opening between a coil of small gut and a pus sac. The vaginal operation should not be attempted

in cases where the uterus and adnexa are infected after either a full term delivery or an abortion after the third month. Such uteri extend above the pelvic brim, and form very extensive adhesions to the appendix and intestines. The case has ceased to be pelvic; it is abdominal, and must be treated by the abdominal route.

J. F. J.

VAGINAL CÆLIOTOMY.

By JOHN EDGAR. *Glasgow Med. Jour.*, 1899, March.

The advantages are considerable, but its indications are so much more limited than for abdominal section. The dangers are hæmorrhage and injury to bladder, ureters or intestine.

J. F. J.

THE ADVANTAGES AND DISADVANTAGES OF VAGINAL CÆLIOTOMY.

By J. FURNEAUX JORDAN. *Birmingham Medical Review*, 1899, May.

The various conditions which can be treated by the vaginal route are dwelt upon. It is quite as easy to be aseptic in the vaginal as in the abdominal operation. The vaginal is purely a pelvic operation, and the greater part of the work is done extra-peritoneally. No hard and fast line can be laid down as to when the vaginal route should be adopted, since so much depends on the capacity of the vagina.

FIBROMYOMATA OF THE VAGINA.

By JOHN PHILLIPS. *Brit. Med. Jour.*, 1899, Feb. 4.

Two cases and an interesting paper on these tumours, which are always single, of very slow growth, usually sessile at first, most commonly affecting the anterior vaginal wall. Treatment is by incision and enucleation, and if necessary, packing the cavity with iodoform gauze. Torsion is dangerous on account of the possibility of injury to the bladder.

J. F. J.

PAPILLOMA VESICÆ IN WOMEN.

By H. FRITH (Leipsic). *Centralblatt f. Gyn.*, 1899, No. 20.

These tumours may be called innocent as regards their pathological anatomy, but clinically, leading as they do to recurrences, hæmorrhages, retention of urine, and hydro-nephrosis, they are decidedly malignant. By dilating the urethra, a woman of 56 was relieved, seven years ago, of a papilloma the size of an apple. The first recurrence was removed two years later by colpo-cystotomy, and she subsequently underwent five operations for the removal of multiple papillomata, and finally succumbed to cachexia. The author discusses the various operations that

have been performed on women for vesical papilloma. In the case here given total extirpation of the bladder was indicated by the recurrence after the first colpo-cystotomy, but the patient refused her consent.

M. GRAEFE (Halle), *ibid.*, S. 592, relates a case similar to the above: that of a woman of 40, from whom a large papilloma had been removed by colpo-cystotomy. For seven years she had no recurrence, but she then had renewed hæmorrhages, and was found to have four large and numerous small papillomata in her bladder, which were removed, through the urethra, by the finger, curette, and small forceps; six months later she had as yet no recurrence. Graefe concurs that clinically these tumours, in spite of their chronic course, must be regarded as decidedly malignant.

ON THE PATHOLOGICAL ANATOMY OF TUBERCULOSIS.
E. KNAUER (Vienna.) *Archiv. f. Gyn.*, Bd. lvii., Heft iii.

In a case of chronic tuberculosis the abdominal end of the tube was open and caseous tubercular encysted tumours had been formed in the abdomen by the discharge of the contents of the tube.

SIX CASES OF UTERINE TUBERCULOSIS.
By VASSMER (Göttingen.) *Archiv. f. Gyn.*, lvii., S. 301.

Of this rare affection six cases occurred in the Göttingen Frauenklinik within ten months, perhaps in connection with the frequency of tuberculosis of the bones and joints at that place, but in one instance only did the tuberculosis affect the uterus alone. The diagnosis was established four times by abrasion, twice by exploratory laparotomy, and with the hope of cure the uterus was extirpated once by the abdomen and once by the vagina. As regards their pathological anatomy the following forms of the disease were made out: in the portio—tumour formations, shallow ulcers, miliary tubercles and bacillary catarrh; in the corpus—miliary tubercles, caseous degeneration, and shallow ulceration. Clinically, little or no discharge, the menstrual flow was seldom increased, in most cases there was amenorrhœa. It is remarkable that in spite of caseous endometritis pregnancy may occur and have a normal termination.

MENSTRUATION AND PULMONARY TUBERCULOSIS. By NEUMANN (Badenweiler.) *Berlin Klin. Wchnschrft.*, 1899, No. 21.

Many tuberculous patients, even if free from fever at other times, suffer from it during menstruation, or if not so free, their fever is increased. The condition of the lungs may or may not suffer. The catarrhal sounds may, independent of fever, be

more marked during the periods so as to disclose latent foci in lungs previously considered healthy; moreover existing noises may diminish after the periods. Tuberculous women should rest as much as possible during menstruation, and by no means attempt to travel.

DYSMENORRHŒA.

By DALCHÉ. *Bulletin Gen. de Thérap.*, April 23, 1899.

The treatment of dysmenorrhœa, whether local or general, must depend upon its cause. We meet with dysmenorrhœa generally indeed in the form of amenorrhœa, in phthisis or chlorosis; after severe infectious diseases, especially malaria; in gout either coinciding with, or taking the place of, the attack; it appears with enteroptosis, especially that associated with wandering kidney; with obstipation and in heart disease. And in all these cases the dysmenorrhœa will disappear on treatment of the original disease. On the other hand, if it be due to local causes, *e.g.*, deficient development of the ovula at the time of puberty, stenosis of the tubes or cervix, or inflammatory conditions of the genital mucous membrane, local treatment, operative or medicinal, must be adopted. The author recommends as styptics, ergotin and hydrastis; as sedatives, beside the usual preparations of opium and belladonna, 20 drops, three times daily, of the fluid extract of *senecio vulgare*, and as emmenagogue permanganate of potash (0.2 gr. daily). Vicarious troubles may be substituted for dysmenorrhœal, gastric pains, pulmonary hæmorrhages, very frequently neuralgia, and once, under the author's observation, absolute paraplegia. He suggests that they are caused by a vicarious hyperæmia of the organs affected.

ON CORPUS LUTEUM CYSTS. By E. FRAENKEL, (Hamburg.)
Archiv. f. Gyn., Bd. lvii., Heft 3.

The author, who some time ago traced the origin of these cysts to active proliferation of follicular epithelium, has by recent microscopical investigation and by culture proved the presence of gonococci in suppurating cysts of corpora lutea, thus demonstrating a wider field for the pernicious influence of gonorrhœa upon the female genital organs.

OVARITIS WITH CYSTIC DEGENERATION.

By E. STANMORE BISHOP and W. E. FOTHERGILL. *Practitioner*, 1899, Feb.

Microscopic sections showed the origin of the minute cysts to be in Graafian follicles which had been prevented from

bursting by the pressure of inflammatory fibrous tissue. Early and careful treatment of ovarian inflammations should therefore prevent the formation of such cysts.

J. F. J.

THE LOCAL ANTE-BACTERIAL TREATMENT OF LEUCORRHŒA BY
"LIVE" YEAST.

By TH. LANDAU. *Deutsche med. Wchnsschrft.*, No. 11, 1899.

The local treatment of leucorrhœa by antiseptic vaginal irrigation has at most a merely temporary success. Hoping that the provoking cause of the catarrh might be overgrown and robbed of its means of subsistence by the introduction of fresh cultures of non-pathological vitality with greater energy of proliferation, Landau has tried vaginal injection of beer yeast in 40 cases, in each case from 10-20 cm. every two or three days, afterwards introducing a tampon, to be removed after twenty-four hours. The discharge completely disappeared after one or two applications in more than half the cases, in a smaller number it reappeared shortly after the omission of the treatment; in a very few cases there was no objective improvement, but even in them the subjective troubles were materially relieved. Landau is continuing his experiments.

THE OPERATIVE TREATMENT OF RETROFLEXIO UTERI FIXATA.

By E. GRISSTEDE. *Archiv. f. Gyn.*, Bd. lvii., Heft iii.

The after history of twenty-four out of forty-five ventrofixations by Gusserow showed that five women were relieved and thirteen cured of their former troubles. Two women conceived and had normal labours. In five other cases of the same operation in the clinic and policlinic labour was protracted.

ON BULGING, BACKWARD INCLINATION, AND BENDING OF THE
PREGNANT WOMB, AND MORE ESPECIALLY ON THE SO-CALLED
RETROFLEXIO UTERI GRAVIDI.

By DÜHRSEN. *Archiv. f. Gyn.*, Bd. lvii., S. 70.

This very important and exhaustive essay is principally concerned with the "partial retroflexions of the gravid uterus" long ago described by G. Veit. Their origin is generally an incarcerated retroflexion which has remained unreduced while the enlargement of the uterus into the abdominal cavity has taken place chiefly at the expense of the anterior wall of the organ. A similar bulging of the posterior wall may result from perimetritic adhesions, or from its being kept down by tumours or by a contracted pelvis. The prognosis in the extreme (so-called second) degree of retroflexion is very bad, and still worse in the retroversion of the gravid uterus of the third degree.

The treatment in all forms should in the first instance be directed, after emptying the bladder, to reposition of the displacement. If this prove impossible, or be contra-indicated, as better than laparotomy (which may be very difficult on account of the bladder being dragged upwards, or directly contra-indicated by gangrene of that organ), Dührssen prefers to operate by the vagina; for instance, when the uterus cannot be emptied in the normal way, vaginal total extirpation or vaginal Cæsarian section. Gangrene of the bladder, a complication only too common, must be treated on surgical principles by colpo-cystotomy, drainage, &c. Pelveo-peritonitis may be caused not by the retroflexion of the gravid womb itself, but by the vesical gangrene or non-aseptic interference. Partial protrusions of the uterine wall are also met with in the antelected gravid uterus.

MAISS (Breslau), *Ibid.*, Bd. lviii., S. 125,

Records a case of partial retroflexion of the gravid uterus fatal from rupture during labour. He attributes this unhappy result principally to the altered direction of the axis of the fœtus induced by the dislocation, causing, in the earlier part of the labour a faulty position of the head in the pelvic inlet, and great unilateral tension of the anterior part of the lower segment of the uterus, and later on the fixation of the anterior lower segment in extreme tension (two illustrations).

THE RETRODEVIATIONS OF THE UTERUS AND THEIR OPERATIVE TREATMENT BY SHORTENING AND FIXATION OF THE ROUND LIGAMENTS.

By J. SCHULZ (Hamburg). *Brun's Beiträge*, Bd. xxiii. Hft. 3.

Since vagino-fixation has been generally abandoned, the various methods of exposing the round ligaments at the external ring of the inguinal canal and, after suitable shortening, securing them to the abdominal wall, have been more widely adopted, and especially so since Lang, of Kocher's Clinic, showed that it was easier to find and lay hold of them by opening the inguinal canal, and Kocher pointed out that it was much easier to set up the uterus if the traction was directed outwards towards the anterior superior spines of the ilia.

Schulz shows from the ample experience of the Hamburg Hospital (nine Alexander and eighty Lang operations) what excellent results are to be attained by shortening and fixation of the round ligaments; of fifty-four cases kept under observation, fifty-three were cured of their ailments. The method may therefore be called an ideal one, and even in complicated cases of prolapse is an auxiliary operation not to be undervalued.

Even after conception the uterus preserved the good position given by the operation. From Schulz's experience no disturbance of the natural course of labour is to be anticipated; indeed, in one case the operation cured sterility.

ON THE OPERATIVE TREATMENT OF RETROFLEXION OF THE UTERUS, MORE ESPECIALLY BY THE ALEXANDER OPERATION.

By F. RUMPF (Berlin). *Archiv. f. Gyn.*, Bd. lvii., S. 424.

In this article Rumpf describes his own scientifically elaborated technic. A curved incision from left to right allows the exposure of the inguinal canals and round ligaments, and the suture of the latter after a shortening of from 10 to 12 cm. Great security against hernia is obtained by accurate stitching, which, on Bassini's principles, is ensured by keeping the processus peritonei well in the background, bringing a solid layer of muscular tissue forwards, and carefully stitching the aponeurosis. In seventy-five cases the ligaments were found every time, a ligament broke in three instances. No relapse occurred in fifty-three cases kept under observation.

Alexander's operation is only available when the uterus is mobile—when it is fixed Rumpf operates in the same way as Gill-Wylie and Bode, *i.e.*, by looping up the round ligaments after cœliotomy and separation of the adhesions. In five cases the folds of Douglas were shortened also.

THE VALUE OF ALEXANDER'S OPERATION IN RETROVERSION OF THE MOBILE UTERUS.

By RONCAGLIA. *Annali di Ost. e Gin.*, March, 1899.

On the basis of the results of fifty-eight cases the author declares that:—

(1) Alexander's operation is easy of execution; it is without danger; has no mortality, and, so far, there is no account of any dystocia in labours after it; the danger of post-operative hernia is easily avoidable even when the whole inguinal canal is split up.

(2) It cannot obtain other than orthopædic effects, but it gives remote results in this way superior to those obtained by any other operation of this nature, and especially to those of vaginal fixation. It is also superior to pessary treatment; for while it corrects the displacement promptly and permanently, pessary treatment takes many months and is not certain to end in cure. These considerations are weighty in the treatment of displacements in women of the poor classes.

(3) It is not sufficient to cure inflammatory affections of the endometrium and uterine parenchyma, which are to be treated

separately by common means. From this point of view Alexander's operation gives the better results the less grave the uterine lesions are. When, however, the latter are marked, the correction of the displacement should be postponed till they are considerably better.

(4) The association of this operation with cervical, vaginal, and perinæal plastic operations is the best means of curing vagino-uterine prolapse complicated with retro-deviation in young women.

FRED EDGE.

CONSERVATIVE SURGICAL TREATMENT OF CHRONIC INVERSION OF THE UTERUS.

SPINELLI (Naples). *Centralblatt f. Gyn.*, 1899, No. 19.

Küstner's treatment of chronic inversion of the uterus (opening the posterior fornix and division of the posterior wall of the uterus) has, according to Spinelli, the disadvantage that the posterior wall of the uterus, already hypertrophic before the operation, becomes still thicker after it. Kehrer's method (splitting the anterior wall) simplifies the reinversion but impedes reposition. In a woman, aged 27, with inversion of the uterus for two years after abortion, Spinelli therefore combined Dührssen's colpo-cœliotomy and vaginal fixation with Kehrer's anterior hysterotomy. The case did well.

A CASE OF INVERSION OF UTERUS BY A FIBROID: ENUCLEATION OF FIBROID AND REPOSITION OF UTERUS. By G. ERNEST HERMAN and LESLIE Durno. *Brit. Med. Jour.*, 1899, Feb. 25.

This is a case in which a fibroid weighing $2\frac{1}{4}$ lbs., growing from the fundus, had descended into the vagina, and in doing so had caused inversion of the uterus. After the removal of the tumour by peeling it off the inverted uterus, the inversion was reduced by taxis on the fundus with traction on the cervix.

J. F. J.

A CASE OF PROLAPSUS UTERI INVERSI POST PARTUM.

By E. BRAUN v. FERNWALD (Vienna).

Wiener k. Wchns., 1899, No. 16.

A 24-year-old secundipara was spontaneously delivered of twins; both placenta came away spontaneously half an hour afterwards, when suddenly the inverted uterus was expelled with copious hæmorrhage. It was easily reinverted by means of the closed fist, and the further course of childbed was quite normal. As there had been no traction on the cords or other active cause, the author attributes the occurrence to the debili-

tated constitution of the mother, the twin labour, and atony of the uterus.

A NEW METHOD OF TREATMENT FOR PROLAPSE OF THE UTERUS: WITH NOTES OF TEN CASES OF PROCIDENTIA.

By J. INGLIS PARSONS. *Lancet*, 1899, Feb. 4.

The principle of this treatment lies in procuring an effusion of lymph in the broad ligament on each side of the uterus by injecting from the vagina a solution of quinine into each ligament. This lymph, on contracting, will ultimately strengthen the broad ligament which is the support of the uterus. The cases reported are most successful. The average time since operation is about twelve months.

J. F. J.

ON TORSION OF THE UTERUS BY TUMOURS.

By EMIL EHRENDÖRFER (Innsbruck).

Monatsschrift f. Geb. u. Gyn., IX, 3, S. 301.

By reason of the opposition sometimes offered to the growth of myomata with broad attachments, by the walls of the pelvis more particularly, a spiral torsion of the uterus may gradually take place due to the local resistance and want of room opposed to the original direction of the growth of the tumour. A case serving as proof of this view was that of a woman of 36, affected with a fibromyoma which, developed in the region between the peritoneal investment (uterus häute) and posterior wall of the uterus, had grown against the sacrum and pushed the uterus forward. Then want of room began, and as the tumour was prevented from growing upwards by the promontory, the uterus was so twisted about its longitudinal axis that its anterior face was at last turned almost directly backwards and its posterior forwards.

ATHMOCAUSIS AND ZESTOCAUSIS (PINCUS).

By OTTOCAR GERICH (Riga). *Centralblatt f. Gyn.*, 1899, No. 19.

A short report of seven cases successfully treated by steam on Pincus' principles. Four were cases of abortion; the remnants of placenta were removed in the first place; two were cases of endometritis; the fourth was one of multiple myomata with profuse menorrhagia. The article speaks more for the harmlessness than for the intrinsic usefulness of the method, as the cases of abortion would very probably have got well once the uterus had been cleared out. Several of the women were treated as out-patients.

SCHICHOLD, *Deutsche m. Wehnschrift.*, 1899, No. 11, has employed steam not only in obstinate endometritis, as originally

suggested by Sneguireff, but in commencing carcinoma of the uterus, and invariably with the best results; the walls of the cavity grew together, and the woman remained healthy.

A NEW METHOD OF EMPLOYING HEAT IN GYNÆCOLOGY.

By C. MIRTLE. *Wiener Med. Presse*, 1899, No. 16.

This method, by means of an instrument called a thermophor, depends upon the principle that every substance in passing from a liquid to a solid condition preserves the temperature of its solidification until this transition is completed, and all the heat originally employed in melting the substance is given off to its environment. Acetate of soda is the substance employed, and in gynæcology this method may be substituted for the tedious process of hot irrigation. The practical application of such thermophors to suit the vagina may, according to the author, be arranged by means of the Fritsch-Bozemann hard rubber or metallic obturator. It is introduced filled with acetate of soda, which, while becoming solid, maintains a constant temperature of 58 C. Such a vaginal thermophor can be introduced by the patient herself.

A second method consists in feeding a colpeurynter fitted with a double catheter, with hot water from a thermophor water kettle, by means of an elastic syringe. An illustration of this apparatus is given in the original. Patients prefer this method greatly to hot irrigation. In the case of extensive exudation this method combined with the application of a thermophor-compress to the abdomen is very beneficial.

ECHINOCOCCUS OF THE PELVIC CONNECTIVE TISSUE AND OF THE LIVER.

By R. CHROBAK (Vienna). *Centralblatt. f. Gyn.* No. 24, 1899.

A full report of a case of Chrobak's in a woman of 27, the diagnosis supposed before the operation being "retrocervically developed myoma of the collum, subserous with extensive inflammatory adhesions to the neighbouring parts," the true condition being discovered on laparotomy. Recovery was disturbed by symptoms of ileus, which necessitated a secondary laparotomy; and adhesions were then found, between the pylorus and the liver, which had caused a distortion of the former; after these had been separated, recovery proceeded without interruption. Chrobak opines that the tumours were due to the immigration of independent parasites and that the pelvic tumour was not secondary to that of the liver.

ON CO-EXISTING DISEASE OF THE VERMIFORM APPENDIX AND THE FEMALE PELVIC ORGANS.

By DÜHRSEN (Berlin).

Twenty-eighth Congress of the German Surgical Society.

In ten out of thirty gynæcological operations Dührssen found the vermiform appendix diseased, and resected it in nine. He therefore believes that appendicitis exists in 30 per cent. of diseases of the pelvic organs in women.

In all the above cases the form was Sonnenburg's simple appendicitis, in some secondary to salpingitis. In one instance he extirpated the whole of the pelvic organs as well as the appendix. He recommends for such cases a median incision in the linea alba.

PERITONEAL ADHESIONS AND THEIR RELATION TO THE FEMALE GENITAL ORGANS.

By R. GERSUNY (Vienna). *Wiener kl. Wchns.*, 1899, No. 22.

As typical adhesions the author instances those of the sigmoid flexure to the descending colon, and adhesions of the appendix. He believes that hæmorrhages into the peritoneal cavity may take place during menstruation and ovulation and lead to such adhesions. In 24 cases 6 were consequences, and 7 only were quite independent of some genital affection. The symptoms consist of pain in both sides of the hypogastrium chronic obstipation with increase of the pain on defæcation or active movement and during menstruation. The treatment indicated is separation of the adhesions after laparotomy.

REMARKS ON PERITONITIC PAIN.

By H. NOTHNAGEL. *Prager Med. Wochenschrift*, 1899, No. 14.

According to received opinions, the pain of colic occurs in paroxysms, generally comes on suddenly and with full severity, has intermissions and remissions, and departs in most cases suddenly; external pressure rather relieves it. Inflammatory pain comes on gradually, but is constant and increased by pressure.

Nothnagel has, however, observed that the first break in continuity in a section of the bowel with consecutive acute peritonitis, *e.g.*, an ulcer of the stomach or vermiform appendix when perforating, causes pain like colic. Even when peritonitis is actually present, pain is not always uniform, and its exacerbations, though they really depend upon intestinal peristalsis, may give one an impression of colic.

THE DIAGNOSTIC VALUE OF PAIN IN GYNÆCOLOGY. By RICHARD LOMER, M.D. (Hamburg). *Amer. Jour. Obst.*, 1899, April and May.

I.—HYPERÆSTHESIA OF THE ABDOMINAL WALLS.

The author discusses the difficulty of distinguishing genuine from hysterical pain. He says: "During the time I applied massage according to Thure Brandt, I frequently found that the pain the patient complained of was not deep-seated, but in the skin. Simply pinching the skin to the right or the left, or pricking it with a needle, cleared the case, and showed that, though there co-existed accidentally a retroflexion or a tubal affection of the same side, the pain in the skin was entirely independent of it." The hyperæsthetic area in cases of so-called neuralgia of the ovary extends far above the ovary, and forms geometrical figures which do not correspond to the distribution of any single nerve. The pain caused by the bimanual examination may be due to disease of the adnexa or to an hyperæsthetic area, and it must be ascertained to which it is due. If pinching the skin causes the pain, other hysterical stigmata must be looked for—*e.g.*, anæsthesia of the conjunctiva or of the soft palate and narrowing of the field of vision. Although the patient will probably only complain of pain in the hyperæsthetic area, other stigmata will be found on examination, and more and more patients will be found to suffer from what Charcot classified as *hystérie normale*. It is met with in all classes of people and in all ages. It is also frequent in the male sex. Three degrees of hysteria are given:—(1) Normal hysteria—cases which would not be called hysterical without looking for the above stigmata. (2) Hysteria due to *agents provocateurs*, as trauma, hæmorrhage, chlorosis, diseases of the sexual organs, fright, &c. In these patients there are anæsthesias and hyperæsthesias, and here first appear hysterogenetic zones. (3) The so-called grand hysteria-convulsions start from the hysterogenetic zones. It is especially noteworthy that, with hyperæsthetic areas of the abdominal wall, comparatively few other symptoms are present. Twenty-seven cases given in full are divided under the two following heads:—(1) Those in which there was no gynæcological disease that could be brought in relation with the pain, and (2) those in which laparotomy was performed for the relief of pain.

(1) In these cases the woman, not being thought hysterical, may be subjected to an unnecessary and useless operation, the pain having been attributed to the underlying organs. Examination for the stigmata will reveal the hysterical cause. Eight cases are described under this head; one given here in brief is typical of all. "Dysmenorrhœa when a young girl. Two births,

one breech presentation with deep laceration of cervix; later endometritis with irregular hæmorrhages; curettage and repair of cervix. After two years, during regular function and normal condition of genitals, hyperæsthesia of abdominal walls and other stigmata. Disappearance of symptoms after iron and one application of the galvanic current." In these cases dysmenorrhœa is frequent. The nervous character of the pain shows itself in that it frequently continues when the flow is quite abundant. The psychical condition of these women is often peculiar, they have a mania for operations, and disdain all danger. With them everything is exaggerated, the pain is terrible, they groan and toss and turn. "We have seen phantom tumours, paralysis of the cord which was cured in fourteen days. One patient was asked to send in a sick report, and sent in daily nineteen closely-written pages."

(2) In the second class of cases laparotomy was performed for the relief of pain. Because of the coincidence of pathological changes in the pelvic organs, the propriety of such operations cannot be criticised. Nineteen of these cases are fully described, and in none of them has the pain been relieved. A more guarded prognosis would probably have been given if stigmata had been looked for, and actual relief might have been afforded by treatment with a weak galvanic current, the anode being placed over the hyperæsthetic area. Again a typical case is given in brief:—"Woman of 23 years; born from neuropathic family. Both appendages removed in America on account of pains. The pains remain the same, and can be located in the abdominal walls. They disappear under galvanic treatment." Another case may also be given:—"Severe laparotomy for right-sided ovarian tumour. Had, previous to the operation, pain in her left side, which is still present. Pleuralgia, epigastralgia, and hyperæsthetic area in left inguinal region. Surprisingly rapid recovery from the pain on galvanisation." It is noteworthy that pain which has persisted for years can be abolished at once. The usual seat of the abdominal hyperæsthetic areas is to the right of the linea alba (it may be the left), a little higher than the ovarian region. Why? cannot be answered. They vary in size from a two or five-mark piece to the palm of the hand. They are very changeable, a hyperæsthetic area one day may be anæsthetic the next.

Special therapeutic remedies are:—(1) The galvanic current. Only very weak currents are of value. The sedative action of the anode has been found most successful. The hyperæsthetic areas being comparatively anæsthetic to the galvanic currents, the patient hardly feels them. (2) "Suggestion," a most important, even a sovereign remedy. This is found in the personality of the doctor. Having made certain of his diagnosis,

he must be certain of his cure, and impress the patient equally so as to the certainty. (3) Removal from home and family, and treatment in an institution. (4) Plenty of food and exercise. (5) It is important to remove a gynæcological condition which is an exciting cause, but no promise should be made that the hysteria will be removed at the same time. (6) By far the most important drug is iron. Bland's pill should be taken persistently for four months, and, after an interval, as long again.

II.—GENERAL CONSIDERATION OF PAIN IN GYNÆCOLOGY.

The pain, even when genuine, is of an immeasurable and inestimable magnitude. Genuine pain is well borne by the hysterical, which shows again that the hyperæsthesias belong to quite a different field of sensation. The intensity of the pain can be surmised, but not definitely ascertained. In all hysterical perversions of sensibility there must be an exaltation of the *ego*, an exaggeration of the personal sense.

The physiology of pain is gone into at considerable length, and among the conclusions drawn are, "If the endings of a sensitive nerve are abnormally excitable, there is a hyperæsthesia." "The abnormal excitability is explained either by the exclusion of certain limiting tracts or by increase of function. Such exclusion of limiting tracts is present in hysterical hyperæsthesias, increase of function in neuralgia."

Visceral pain never exists by itself. There must be an irritant in order to excite it, and the pain varies according to the nature of the irritant. The variations are divided by the author into traumatic, contractile, inflammatory, neuralgic form and hysterical pain, and he gives examples of these kinds of pain in every organ pertaining to gynæcology.

There are hysterical hyperæsthesias of internal organs. In most cases of vaginismus hysterical pain is of significance, the greatest rôle being played by central influence. To quote Schauta, "Vaginismus is produced by the very idea of being touched." Several cases are described fully, but only briefest headings can be given here. Case:—"Hyperæsthesia of the introitus in an elderly woman with a neuropathic tendency, and all sorts of local complaints. Distinct hysterical stigmata. Rapid improvement on galvanisation." Another case:—"Excessive vaginismus, complicated with glandular endometritis, in a young unmarried girl. The vaginismus remained when the endometritis was cured. Hyperæsthesia and undoubted stigmata can be referred to hysteria."

Cases are given showing hysterical hyperæsthesias of the portio vaginalis and cervix, of the uterus and of the ovaries. Also the "irritable bladder" is ascribed to hysterical hyper-

æsthesia; an illustrative case is briefly as follows:—"Dysmenorrhœa when a girl. Married an old man; is still a virgin three years later (*agent provocateur*). Hysterical cephalalgia. Favourably influenced by galvanic current. Four years later is suddenly taken with an excruciatingly painful bladder affection, with normal urine and in the absence of any organic disease. Hyperæsthesia of the bladder region. Rapid cure by keeping her in the clinic and by galvanic treatment."

Hysterical pain in the abdominal wall is independent of any visceral disease or of neuralgias in the true sense of the word. The object of the paper is to induce the gynæcologist to think of the common occurrence of hysterical hyperæsthesia before using the knife. "What hysterical coxalgia is to the surgeon, hyperæsthesia of the abdominal walls is to the gynæcologist. He should pinch them in all cases in which there is a complaint of pain. He should try them on the right side and on the left side, and he will often be surprised.

J. F. J.

ON THE ANATOMY AND GENESIS OF UTERUS DUPLEX.
By L. PICK (Berlin.) *Archiv. f. Gyn.*, Bd. lvii., Heft iii.

In connection with a new case of uterus duplex myomatosus the author discusses the way in which Muller's pair of ducts blend into a single corpus uteri; the position of the principal folds of plicæ palmatæ indicate the way the two ducts originally approached each other and the rotation they underwent longitudinally.

DYSTOPIA OF THE LEFT KIDNEY ASSOCIATED WITH UTERUS UNICORNIS.

By M. FRANK (Altona). *Centralblatt f. Gyn.*, 1899, No. 20.

A supposed adnexal tumour was on laparotomy found to be the left kidney, and was suspended by suture. The uterus had but one horn, which was on the right side, with complete adnexa; on the left side there was neither tube nor ovary, broad nor round ligament. The patient had had eight normal labours. Acquired mobility generally affects the right kidney, congenital dystopia the left.

THE REMOVAL OF A FIBROID FROM A UTERUS UNICORNIS
IN A PAROUS SUBJECT.

By ALBAN DORAN. *Brit. Med. Jour.*, 1899, June 10.

The tumour was in a rudimentary horn of the uterus, the other horn being sufficiently well developed to have twice been the seat of pregnancy. The ovarian and uterine vessels of the side affected were unusually large, and were ligatured before the

enucleation of the fibroid. The cut edges of the capsule were sewn over the raw surface.

J. F. J.

ON THE VASCULAR CONNECTIONS OF THE PLACENTAL CIRCULATION OF UNIOVULAR TWINS, THEIR DEVELOPMENT AND RESULTS. THE ACARDII AND THEIR KIN.

By F. SCHATZ. *Archiv. f. Gyn.*, Bd. lviii., Heft i.

Schatz has already discussed (*v. B. G. J.*, vol. xiv., p. 457, Nov., 1898) the orthomorphous macro- and micro-cardii, and now considers malformations distinguishing between (1) primary heteromorphous defects in development and (2) secondary defects and malformations. In this article he deals with heteromorphous micro- and macro-cardii, and utilises the conclusions drawn from them to divide the acardii into such as have arisen from heteromorphous, that is non-normal, and normal fœtus.

TWO FÆTUS, DERIVED FROM DIFFERENT PREGNANCIES, IN THE SAME TUBAL SAC.

HEINRICIUS & KOLSTER. *Archiv. f. Gyn.*, Bd. lviii., S. 95.

At an autopsy two full-term fœtus were found in one tube, the one uninjured to the naked eye, the other completely macerated except the bones.

HERMAPHRODITISMUS VERUS.

By W. NAGEL. *Archiv. f. Gyn.*, Bd. lviii. S. 83.

Disagreeing from Blacker (*London Obs. Tr.*, vol. xxxviii., p. 265), Nagel explains an 8½ months' stillborn fœtus as a male with largely developed sinus popularis in the substance of the prostate. He concludes that no hermaphrodite form has yet been found in human beings: a few isolated instances have been seen in the abortions (? monsters) of swine. A functioning hermaphrodite is as little known among the mammalia as among men.

FIFTY FALSE MARRIAGES BETWEEN INDIVIDUALS OF THE SAME GENDER WITH SOME DIVORCES FOR "ERREUR DE SEXE."

F. NEUGEBAUER (Warsaw). *Centralblatt. f. Gyn.*, No. 18.

A collection of published cases in which, on account of a mistake in the gender of one of them, two persons of the same sex have been improperly married. The individuals were in forty-six instances both male, and in four both female. The mistake was generally due to a pseudo-hermaphroditismus, the condition being nearly always hypospadiasis peni-scrotalis. The article appears in French in the April number of the *Revue de Gyn. et de Chirurgie Abdominale*.

POST-OPERATIVE INSANITY.

By GEORGE H. ROHÉ, M.D. (of the Hospital for the Insane, Sykesville.) *Amer. Jour. of Obst.*, March, 1899.

After mentioning several reported cases of post-operative insanity, the author goes on to say that, if all cases of mental disturbance following operation are taken into consideration, it is found that there is little difference between the two sexes in the number affected. "The graver forms however, follow, in the majority of cases, operations on the abdominal and pelvic organs in women. In men, cœliotomies have furnished a good proportion." In reference to the belief that the loss of virility or muliebrity produces such profound mental depression as to cause melancholia, he points out that melancholia is the least frequent form of mental disturbance following operation. "Excluding cases of hereditary or acquired psychopathic predisposition, the mere removal of the ovaries or the uterus would have no greater psychical effect than an amputation of the arm or leg."

There is no especial form of mental disturbance to which the name of "post-operative insanity" can be applied. The manifestations may be maniacal, depressive or paretic. In the majority of cases the type is that of confusional insanity. Excluding those cases due to shock, the anæsthetic used, the toxic influence of chemical antiseptics or internal remedies, and the cases properly classed as climacteric insanity, most of the remainder, which includes the majority of the cases, are due to toxæmia from septic conditions. The prognosis of acute confusional insanity is generally favourable. While a considerable proportion die from exhaustion, the number passing into dementia is comparatively small. The recovery rate should, with early treatment and careful nursing, be at least 75 per cent. To combat the exhaustion, rest in bed and nutrition are most important. Easily digested food must be given in sufficient quantity, and the patient may require urging to eat. Stimulants are often necessary, especially in cases with fever. Insomnia and delirium can often be overcome by warm baths; if these fail hypnotics must be used, of which opium is to be preferred on account of its stimulant properties. Strychnine may be of use in adding tone to the depressed heart.

In the same journal, Dr. Henry M. Hurd, of Baltimore, has an interesting article on "Post Operative Insanities and Undetected Tendencies to Mental Disease." He says that if an operation is free from septic infection in a case destitute of any tendency to insanity, there can be no ground to think that the operation *per se* produces mental disease, or that the insanity is post-operative in the sense that the operation bears a causative relation to the insanity. The removal of the ovaries may

occasion a premature climacteric insanity in the form of a melancholia with delusions of depression and apprehension. This mental disorder is due to the loss of the organs and not to the operation. The essential pre-requisite for the development of post-operative insanity must be in all cases a neurotic organisation predisposed, either from hereditary taint or from acquired nervous weakness, to take on diseased action in consequence of any active disturbing influences. Hence operations should be discouraged in people of this constitution. If undetected tendencies to mental disease were carefully considered prior to operations, the author thinks we should hear much less of post-operative insanity.

J. F. J.

ACUTE MANIA FOLLOWING SIMPLE OVARIOTOMY.

In the *Edinburgh Med. Jour.* for May, 1899, J. Halliday Croom reports a case of acute mania following simple ovariectomy. The points of special interest are, first, its occurrence so early as the third day after the operation, and, second, its rapidly fatal issue on the sixth day. The operation was a simple one for uncomplicated cystoma, and *post-mortem* examination revealed absolutely nothing wrong with the abdomen. He also records a case of acute mania at each menstrual period, which he treated by removal of the ovaries which were cystic. A complete cure was the result, and has been maintained now over several years.

J. F. J.

THE EFFECT OF OPERATIONS ON THE INSANE.

By PICQUÉ. *Paris Surgical Society*, March 29, 1899.

The great frequency of gynæcological affections among the insane must be admitted. Picqué found a proportion of 88 per cent.; with other observers the proportion has risen as high as 93 per cent. On the other hand, he has in many cases observed the mental symptoms improve after an operation on the genital organs. Nevertheless, such interference has hitherto found little favour with surgeons, as may be seen from the statistics of English, Belgian and Italian operators. He has arranged his own sixty-six cases in three groups: in the first the disease of the brain developed at the same time as that of the uterus; the second comprises insane cases which had serious genital affections, but in whom operation had but a relative success; the third group includes convalescents, whom operation benefited by hastening their recovery. Picqué found only seven women in sixty-three whose genital organs exhibited no change; eighteen operations led to definite cure in eleven cases, to improvement in three, but in none to any aggravation of the mental troubles.

THE RELATION OF DISEASES OF THE FEMALE GENERATIVE ORGANS TO NERVOUS AND MENTAL AFFECTIONS.

By B. SHERWOOD DUNN, M.D.

The consideration of the subject is limited in this essay to the great neuroses of neurasthenia, hysteria and insanity. The author stoutly combats the unanimous assertion of the neurologists at the last meeting of the American Medical Association at Denver that "The disorders of a woman's pelvic organs have not more, but rather less, to do with her mental and nervous diseases than lesions elsewhere in her body"; he is, nevertheless, totally opposed to any operative procedure "where pathological conditions are not demonstrable," and points out that the hope in operating upon diseased conditions in the pelvis is to remove not the symptoms of the neuroses, but those symptoms properly belonging to the pelvic disease itself, so that the nervous system, relieved from the source of unceasing irritation, may gradually return to its normal poise, and the patient be cured of her neuroses as well as of her pelvic disease. Pelvic disease not necessarily gross in character may give rise to local symptoms. Micro-pathological changes in the ovary frequently cause more excruciating pain and far-reaching reflex symptoms than changes of a grosser character and more easily diagnosed; MacNaughton-Jones, for example, says (*BRIT. GYN. JOUR.* Aug. 1893): "One of the most desperate cases of dysmenorrhœa I have ever witnessed through the nerve storms at the menstrual period was completely cured by removal of ovaries, which presented no evidence of disease further than slight sclerosis with sago-grain degeneration."

From their complex and subtle physiological relationships, the uterus and ovaries, especially when functionally or organically diseased, react with manifest effect on other organic functions, especially on those of the nervous system, more quickly than any other viscera, and this no doubt is due to the anatomical connection of those organs with the cerebro-spinal system through the splanchnic nerves and spinal cord in the sacral and lumbar regions, as well as through the pelvic and hypogastric plexuses of the sympathetic nervous system.

Neurasthenia is the result of a loss of substance of the nucleus and cell protoplasm, expressive of wear and tear. Any continued reflex action which denies to the neuron time for recuperation produces a pathological condition, a shrinkage of the nucleus and cell substance, which robs the neuron of its functional ability to transmit the normal nerve influence and gives rise to the chronic fatigue symptoms typical of neurasthenics. Disease of the pelvic organs is the most frequent source of such irritation, and must be corrected if a cure is to be effected. Rest

cure, tonics, and liberal diet may benefit the neurasthenic with pelvic disorder for a time, but when she returns to the labour of daily life she relapses into her former state. "There is perfect truth in the claim of the neurologists that ill health in woman is frequently the cause of her uterine troubles; but it is even more true that the various diseases of the uterus and its adnexa are the exciting cause of ill health that frequently results in morbid changes in her central nervous system." Any operation necessary to cure exciting pelvic disease should be performed, and often the cure of the neuroses follows. In support of his contention the author quotes from Dr. Ethridge, Dr. Duff, and Dr. Bantock.

As regards hysteria, there are undoubtedly cases in which hysterical seizures persist after the removal of gross pelvic lesions, but it is no less certain that in many cases correction of the pelvic condition cures the hysterical phenomena. Great care should be exercised in approaching every case of hysteria, and much importance is to be attached to the presence of superficial inguinal hyperæsthesia.

"Two theories may" (according to A. T. Hobbs) "be offered why inflammatory disease of the uterus and its adnexa are potent etiological factors in exciting alienation in females; the reflex theory and the internal secretion theory." Constant irritation of the lower nerve-centres incidental to local disease must react upon the higher centres. If the reproductive glands give off some specific contribution to the maintenance of a healthy equilibrium, it is likely that when diseased they give off vitiated elements that act as toxins and disturb the mental equilibrium. Jacobs, of Brussels, cured several cases of insanity by administering powdered cow's ovaries. The clinical facts that appear from time to time following the works of the gynæcologist upon the insane are so rapidly assuming the importance of statistics demanding consideration, that at no distant date a gynæcologist will be a regularly appointed officer of an asylum. A. T. Hobbs found one-sixth of the females in the Ontario asylum suffering from diseases of the pelvic organs. Of 110 cases operated upon, 36 per cent. were completely restored mentally, 29 per cent. showed an improved mental condition, in 29 per cent. the condition remained stationary, and 3 per cent. died.

T. K. Holmes, of Chatham, Ontario, reports thirty-one cases with details, including "(1) abscess of ovary, laceration of perineum and cervix. Ovary removed by abdominal route, and cervix and perineum repaired. Cured of mental ailments. (2) Vaginitis. Prompt mental recovery on vagina being cured."

"Twelve cases, lacerated cervix with subinvolution. Eleven cured of mania and one improved." "Fourteen cases of lacer-

ated cervix and perineum with varying degrees of subinvolution, endometritis, menorrhagia and leucorrhœa. Thirteen were cured mentally and physically; the fourteenth committed suicide six weeks after leaving the hospital." He says: "I have never known a case of puerperal mania in which examination of the pelvic organs did not reveal some gross lesion, usually laceration of the cervix, and I am certain nearly every case will recover mentally after the lesion is cured."

Dr. Burgess, of the Protestant Hospital for the Insane at Montreal, reports three cases very similar to the above, all cured.

In further support, the author quotes Drs. Ernest Hall, John Young Brown, W. P. Manton, Gill Wylie, Greig Smith, Routh, Baker-Brown, Robert Barnes and MacNaughton Jones, and also amongst neurologists, Weir Mitchell and C. K. Mills. He concludes with the history of a case of kleptomania which attracted much attention in London some time ago.

The victim pleaded guilty to stealing several articles practically of no value to her, but was released by an order from the Home Office based upon the medical evidence submitted to it. After her liberation she returned home and was treated at Philadelphia by Dr. Steinbach. The uterus was hypertrophied to one and a-half times its normal size, the mucous membrane was irregularly roughened and bled on the slightest touch of the sound. The cervix was lacerated bilaterally and there was a fissura ani with ulcers of the rectum. Since her operation she has improved mentally, so that whereas when first seen she seemed rather to enjoy the excitement of the doctor's visits and questioning, abashment, if not shame, has seemed to develop *pari passu* with her physical improvement; and to the regret for the trouble brought upon her husband, which had previously seemed to be her only cause of grief, has been added contrition for the deed itself. This case is of the greatest value as supporting the position that disease of the female generative organs is often the direct cause of nervous and mental affections.

J. F. J.

ON THE QUESTION OF CONTRACTIONS OF THE TUBES.

By W. THORN (Magdeburg). *Centralblatt f. Gyn.*, 1899, No 19.

Whether the tubes in women can contract independently is not yet decided. Engström's published case is not unambiguous. Thorn considers one on which he operated more demonstrative. It was that of a woman, aged 32, with incomplete tubal abortion and peri-tubal hæmatoma, who was cured by extirpation of the tube. The preparation, which is fully described and depicted in the original, showed the ovum outside the tube, but, by a sort of inversion, lying inside a peripheral hæmatoma, where, in Thorn's

opinion, it could not have arrived except by pain-like contraction of the tube.

EXTRA-UTERINE PREGNANCY. By H. J. BOLDT, M.D. (New York). *American Jour. of Obst.*, 1899, May.

After reference to a case of interstitial pregnancy and a description of the symptoms of tubal abortion and partial tubal rupture, the author describes a case of extra-uterine gestation in which the foetus escaped into the abdomen and was removed after full term.

At the operation the foetus was found lying free in the abdominal cavity among the intestines, no liquor amnii was present and no sac. The head was wedged tightly into Douglas' pouch and had given rise before operation to a suspicion of fibroid of uterus. It was encapsulated by a pyogenic membrane in its lower part; this pyogenic membrane did not extend beyond the boundaries of the true pelvis. A tumour which had been felt in the left side of the abdomen was oval, firm in consistence and connected by a hollow pouch with the left lateral part of the pelvic cavity. Into this tumour passed the umbilical cord. The left Fallopian tube was slightly elongated and the abdominal opening and fimbriæ partly obliterated. The pathological report on the specimen showed the foetus to be an eight months' one without any trace of membrane covering it. The oval tumour was placenta—fairly smooth on its external surface over one-third of which were many tags and shreds of broken fibrous adhesions. It was enveloped in a thin, smooth fibrous covering, thickened and irregular, surrounding the area of attachment of the umbilical cord. On the side of the mass opposite the site of attachment of the umbilical cord are some small villousities—shrunk fimbriæ of the Fallopian tube. Here evidently was an intimate incorporation of the spread-out fimbriated end of the tube with the outer covering of the mass. From the condition of the blood in the vessels and the placenta the circulation through them had ceased for some time before operation. From the pathological report it was probable that there had been an entire separation of the abdominal part of the Fallopian tube, in which placenta and foetus had originally developed, from the uterine part of the tube. How long the placental circulation had ceased before operation it is difficult to say.

If, in these cases, the patient is seen before the death of the foetus, it is important to watch them carefully, for false labour pains may set in at any time and destroy the life of the child. If possible operate at or near full term, as then the child will have a better chance of surviving. If the patient is not seen till after the death of the child then wait, before operating, till

it is almost certain that the placental circulation has ceased. If the placenta can be removed at the time of operation, this should be done.

CASE OF COMPLETE TUBAL ABORTION.

By Dr. EDGAR. *Glasgow Medical Journal*, 1899, April.

Came on only six days after an ordinary menstrual period. Situated in the outer half of the tube, and it is interesting to note that the inner half was bent on itself, and firmly bound by a band of adhesion round it.

J. F. J.

TWO INSTANCES OF EXTRA-UTERINE (ONE TUBAL AND ONE OVARIAN) GESTATION IN WHICH RUPTURE OCCURRED BEFORE THE END OF THE FIRST MONTH; OPERATIONS. By HASTINGS GILFORD. *Lancet*, 1899, June 24.

The pathological condition in the ovarian case is carefully described. Microscopical examination of the ovarian mole established the presence of chorionic villi; the tube of the same side showed no sign of even a microscopic lesion.

J. F. J.

A CASE OF EXTRA-UTERINE GESTATION, CLOSELY RESEMBLING UTERINE PREGNANCY; OPERATION FOUR MONTHS AFTER TERM; RECOVERY. By E. BROMET. *Lancet*, April 8.

In this case there were all the subjective and many of the objective symptoms of pregnancy. There were well-marked signs of labour at full term. At the operation the placenta was peeled off the sac, which was not removed, the opening in it being stitched to the abdominal wound.

J. F. J.

A CASE OF TUBAL GESTATION WITH RUPTURE AND FATAL HÆMORRHAGE AT A VERY EARLY PERIOD OF PREGNANCY.

By F. LUCAS BENHAM. *Lancet*, Mar. 25.

Microscopic examination of the specimen showed that the duration of the pregnancy at the time of rupture was between ten and twenty days.

J. F. J.

A CASE OF RUPTURED TUBAL PREGNANCY; INFECTION; CÆLIOTOMY; LARGE INJECTIONS OF SALINE SOLUTION WITH BRANDY; RECOVERY. By C. HAMILTON WHITEFORD. *Lancet*, April 15.

Owing to the loss of blood, $5\frac{1}{2}$ pints of hot saline solution were left in the abdomen, and $8\frac{1}{2}$ pints of a similar solution, with one ounce of brandy, were injected into the united venæ comites in the axilla.

J. F. J.

ADHERENCE OF THE INFERIOR POLE OF THE OVUM AS CAUSE
OF DELAYED DILATATION.

By H. LÜHLEIN (Giessen). *Centralblatt f. Gyn.*, 1899, No. 19.

The delay in the first stage of labour, commonly referred to weak pains, depends not infrequently, according to Löhlein, on the above anomaly, which is itself generally due to chronic endometritis. The adherence may be detected on examination by passing the finger into the inner os. It should be at once separated, and when this has been done there is generally an immediate progress in the labour—if not, the membranes should be broken. Löhlein met with this condition in 15 out of 3,000 labours. These adhesions are not to be confounded with the much more unusual coherence of the membrane with the inner wall of the cervix described by Hecker and Litzmann.

INVESTIGATIONS OF THE RELATIVE WEIGHT OF FŒTUS AND
PLACENTA IN CASES OF ALBUMINURIA DURING PREGNANCY.

By C. WIPPERMANN. *Archiv. f. Gyn.*, Bd. lvii., Heft 3.

From investigation of the material of Fehling's Clinic at Basle, the author has found that when development proceeds undisturbed to term, there is a definite relation in the weights of the fœtus and placenta. Albuminuria impedes the development of the fœtus, as is shown by its diminished weight, and causes not only a relative but also an absolute increase in the weight of the placenta.

ON PHLORIDZIN-DIABETES IN PREGNANT AND PARTURIENT
WOMEN AND NEWBORN CHILDREN, AND ITS RELATION TO
THE QUESTION OF THE SECRETION OF URINE BY THE
FŒTUS.

By L. SCHALLER (Halle.) *Archiv. f. Gyn.*, Bd. lvii., Heft iii.

Phloridzin is especially useful towards solving the problem of the origin of the liquor amnii, as its administration to the mother is followed by the secretion of sugar by the maternal and fœtal kidneys; on the other hand, the amount of sugar in the maternal blood is diminished, so that if sugar appears in the liquor amnii after such administration it must be due to the fœtal kidneys and not to transudation from the maternal blood, and the fœtus must share by the action of its kidneys in the production of the liquor amnii. Investigations on thirty-four women and four animals disclosed the astounding fact that the liquor amnii never contained fœtal urine during pregnancy, nor did it do so during labour when the fœtal circulation was undisturbed. The regular action of the kidneys is not established till after birth.

ECLAMPSIA, ITS PATHOGENESIS AND TREATMENT IN THE LIGHT OF PRESENT OPINIONS.

By Prof. FEHLING. *Halle Med. Soc.*, February 8, 1899.

The theory of the bacillary origin of eclampsia has hardly been happily set aside than a new one from France, that it is a hepato-toxæmia, threatens to prevent any real advance in our knowledge of the disease.

An examination of the *post-mortem* conditions published by Bouffe de St. Blaise, Bar, Budin, and in Germany by Schwert, Lubarsch, Prutz, Winckler, and others, shows that the alterations in the liver, the well-known hæmorrhagic and anæmic necroses, the liver-cell emboli, the thromboses, and the emboli of placental giant cells, are by no means constant occurrences, and stand in no proportion whatever to the severity of the case. The pathological anatomy of the kidneys is much more uniform. Sufficient attention has not yet been paid to the morbid anatomy of the fœtus, in which somewhat similar conditions have been pointed out in the liver and kidneys.

It is of great importance that in animals Schwert obtained by the injection of infusions of placenta the same intra-vital coagulations as are found in eclamptics after death. Kollman found the percentage of fibrin in the blood let from eclamptics higher than usual. Moreover Vollard has shown that the somewhat contradictory experiments upon animals by injections of urine and serum made by Tarnier, Chambrelant, Ludwig and Saxer are not unobjectionable, and has found that the urine of eclamptics may contain a coagulating material which is capable of causing thromboses during life.

The theories, therefore, which look for the cause of eclampsia in an affection of the liver during pregnancy are not yet satisfactorily established.

It must be confessed that eclampsia is a thoroughly typical form of disease, and intimately associated with the process of procreation. It may be that the metabolism of the fœtus and the transference of the final products into the maternal circulation is of more importance than has hitherto been supposed. The nephritis of pregnancy is most probably not the cause of eclampsia, but the first sign of intoxication, of which eclampsia, if it supervene, may be the second.

Prophylaxis, and dealing with albuminuria in pregnancy, must play a great part in the treatment of eclampsia—a rigid milk diet, according to Tarnier.

Early delivery without too much interference is rational—the membranes may be ruptured after the first attack even when the cervix is undilated. Bloodletting, to not more than half a litre, is perhaps not indicated by the disease, but is life-

preserving in congestion of the pulmonary circulation. On the other hand, the stimulation of the functions of the skin and kidneys, especially by means of subcutaneous injections of salt solution, is the most important thing to eliminate the toxines.

It is well to use chloroform and morphia in moderation, but large doses of morphia are perilous, and its narcotic action on patients in toxic coma merely hastens the end. In recent years the speaker had seen many eclamptics die from the effects of morphia rather than from those of the disease.

Prof. HARNACK remarked that, as eclampsia is a disease of the last month of pregnancy, that is, of the time when the foetus has reached a certain maturity, it follows according to the foetal theory that it is not until this time that chemical changes occur which would cause eclampsia.

THE PATHOLOGY OF ECLAMPSIA.

By STROGANOFF. *Wratch*, 1898, p. 485. *Annales de Gynec. et Obstetric.*, 1899, p. 68.

This article terminates a series of papers in which Stroganoff advocates the contagious nature of eclampsia, a theory which all Russian authorities deny, basing his views specially upon 118 observations in his own and other obstetric institutions. The study of the statistics demonstrates that the patients have the first attack four to eighteen hours after their admission, and the same interval often exists between the first and the second case in the clinic, and also that the child of the eclamptic patient is seized after the same period; where the eclampsia has evidently been contracted outside the hospital, it must be referred to some other outside case.

The contagious principle seems to persist for about three weeks, and is probably transmitted by means of the air in the respiratory tract, since careful researches have apparently excluded the genital tract. Rigorous isolation of the eclamptic patient, if not of the persons nursing her, is beyond a doubt necessary, since the number of cases observed in hospital exceeds that in external patients. The theory of eclampsia advanced by Massen will prove to be rather a confirmation of Stroganoff's theory than otherwise; the eclampsia of albuminuric patients cannot be distinguished in any way, not even by anatomical section, from primitive eclampsia; but this does not disprove the contagious nature of the latter. Stroganoff has no doubt but that careful and unprejudiced study of the production of the cases will demonstrate conclusively the contagious nature of the disease.

SYMPTOMATOLOGY OF PUERPERAL ECLAMPSIA.

By T. W. SHEARER, M.D. *Annals of Gyn. and Ped.*, Boston, 1899, Feb.

Prodromal symptoms are more frequent when the eclampsia occurs during the course of pregnancy than at the term of pregnancy or subsequently. Severe headache, vertigo and partial or complete loss of vision are important symptoms, and if there is albuminuria, the source of the albumen should be looked for. These premonitory symptoms may be present for weeks, or days, or hours, or even only minutes, and in some cases may be absent altogether. Death may result from asphyxia, or the shock to the brain and sympathetic nervous system may be so severe as to paralyse the heart. In other cases enfeeblement of mind and body results, which may terminate fatally some weeks afterwards.

J. F. J.

INTRACELLULAR INJECTIONS IN CASES OF HÆMORRHAGE AND ECLAMPSIA.

By ROBERT JARDINE. *Glasgow Medical Journal*, 1899, March.

For hæmorrhage Dr. Jardine uses a solution containing a teaspoonful of common salt to a pint of boiled water; for eclampsia the same amount of equal parts of bicarbonate of potash and common salt, the diuretic effect of which was well marked.

J. F. J.

TREATMENT OF ECLAMPSIA. By W. R. BLAIlOCK, M.D. *Annals of Gyn. and Ped.*, Boston, 1899, Feb.

It is very rightly pointed out that albumen in the urine of a pregnant woman should be regarded as a warning that eclampsia may occur, and that preventive treatment by milk diet should be adopted.

When eclampsia has occurred the author finds chloral the best remedy for the convulsions; it should be given by the rectum. "Dissolve 150 grains of chloral in ten ounces of pure water: inject four ounces into the rectum. Then, every fifteen or thirty minutes, inject one ounce until the convulsions cease or until the whole amount is given." If they continue wait a few hours before giving more. If the child is dead or the attacks show a tendency to continue, empty the uterus. More chloral may be given, if necessary, even up to 180 or 200 grains. Charpentier gave 180 grains in ten hours, and the patient recovered.

J. F. J.

RECURRENCE OF ECLAMPSIA DURING PREGNANCY.

By MAYGRIER. *Soc. d'Obst. de Paris*, 1899.

The author has observed two cases. The first was an albuminuric patient who had had sixteen eclamptic attacks. She was six months pregnant with a living child, and notwithstanding the sixteen attacks, she recovered perfectly without labour coming on. Eleven days afterwards fresh attacks came on in spite of the milk diet, which was strictly carried out. The fœtus died during the second period of eclampsia, and remained in the uterus for one month.

The second patient had recurrence of eclampsia one month after the first attack. These two cases prove that eclampsia can recur during pregnancy, and that even when the patient remains on an exclusive milk diet.

FRED EDGE.

CLINICAL REMARKS ON THE ORIGIN AND PREVENTION OF FEVERISH AFFECTIONS IN CHILDBED.

By PEISER (Mannheim). *Archiv. f. Gyn.*, B. lviii., S. 248.

The use of vaginal irrigations during confinement which Mermann, the author's chief at the Mannheim Asylum, Leopold and others so successfully condemned, has lately been advocated by Hofmeier, who attributes to it the good results obtained at Würzburg. Hofmeier's view might lead to the reintroduction of these vaginal injections, especially by midwives and general practitioners, and has led to this publication of the results obtained in the Mannheim Asylum, where no internal antiseptics are employed and no uterine or vaginal irrigation is allowed even in connection with intra-uterine manipulation.

The following table compares Dr. Mermann's results with those of Ahlfeld and Hofmeier.

Place	No. of Labours	General Morbidity	General Mortality	Deaths from Infection	Deaths from Infection after Admission
		Per cent.	Per cent.	Per cent.	Per cent.
Marburg (Hofmeier) ...	3,000	27·6	24=0·8	10=0·33	3=0·1
Würzburg (Ahlfeld) ...	4,000	9·5	28=0·7	6=0·15	4=0·1
Mannheim (Mermann)	2,722	9·17	15=0·55	2=0·07	0=0·0

Omitting the first 100 cases with a 21 per cent. morbidity when the staff were not thoroughly instructed, and vaginal injections were made in many cases, the general morbidity at Mannheim falls to 8·81 per cent. The principle of treatment there adopted is the avoidance of all local measures, and the use of over-feeding with alcohol in liberal but not excessive doses. In case of hæmorrhage with fever due to retention of

parts of the placenta or membranes, the remnants are removed by the fingers but without any foregoing or following irrigation, and the statistics show that rigid asepsis during labour and childbed has given excellent results without the use of any antiseptis.

CARTEN WOOD, *Medical Record*, April 15, 1899.

Records a curious case of puerperal infection after a prematurely induced labour, due to the *Bacillus aerogenes capsulatus*. All the organs were infiltrated with air bubbles, the heart being most severely affected. Cultures deprived of air gave the above mentioned bacillus.

ON THE TREATMENT OF UNAVOIDABLE HÆMORRHAGE BY
REMOVAL OF THE UTERUS.

By LAWSON TAIT. *Lancet*, Feb. 11, 1899.

The mortality from unavoidable hæmorrhage from presentation of the placenta is from forty to fifty per cent. The case under notice was that of a woman with as bad a history of hæmorrhage as a woman well could have. She had taken ergot for years, had twice been curetted and cauterised, had nearly died from post-partum hæmorrhage in a previous labour, and had had several miscarriages with severe hæmorrhage each time. In this experiment there had been furious hæmorrhage for five hours, which could not be stopped by ordinary measures. Mr. Tait decided to prevent any further chance of such hæmorrhages, and removed the uterus by the aid of the elastic ligature. The mother recovered well, the child lived for a month and then died of bronchitis.

J. F. J.

ON THE EXTIRPATION OF THE SEPTIC PUERPERAL UTERUS.

PROCHOWNICK. *Hamburg Medical Society*, May 2, 1899.

The hopes of obstetricians in the effects of antiseptis and asepsis have been but partially fulfilled. In hospitals the results compared with those of former days have been excellent; in private practice they are also better, but both the mortality and morbidity are still high. Constant efforts are made to improve this state of things by reform for midwives, post-graduate courses of instruction for practitioners and economical asylums for the sick. The weak point is our treatment of those who, in spite of prophylaxis become seriously ill. This depends on the difficulty of diagnosis, which, in spite of the great advances in anatomical, biological and bacteriological knowledge, has become more difficult rather than easier. As regards treatment, between nihilistic views and hyper-activity

there are a series of eclectic methods as well as simple methods of internal treatment and serotherapy. Further improvement must depend entirely upon improved diagnosis.

The already infected uterus having been completely removed after rupture and in cases of Cæsarian section, the question arises whether the extirpation of the infected puerperal uterus should ever be done as a therapeutic measure, and if so under what conditions. Cannot the diagnosis be ensured to such an extent that patients in a dangerous condition may be saved by its extirpation? No doubt extirpation of the uterus is justified when it alone is the seat of the disease, when other means of treatment are not, or are no longer, available, and when without the operation death is certain. In most cases, as is easily proved in abortion but not so after labour at term, the infection is one of the uterus or its cavity. A primary condition for absolute diagnosis is accurate clinical observation for a day or two, without the administration of any drugs and without any local treatment. Inspection must be limited to the perineum, vulva and lower part of the vagina. More complete internal examination is, in serious cases, impossible in private practice, or of very doubtful advantage, as even positive bacteriological evidence cannot establish the seat and severity of the disease. The most important thing, in Prochownick's opinion, has always been whether pyæmic extension of the micro-organisms is taking place through the circulation, or merely the distribution of toxins from the local foci of infection. In every case of puerperal disease of late years he has based all his decisions as to treatment upon the regular and systematic employment of blood cultures, and has met with increasing success (mode of culture detailed).

In all positive results streptococci were found in the blood, and with the exception of two, all of these cases operated upon died. Serum employed in the most exact manner, up to 40 cc. in the twenty-four hours, was useless. In typical pyæmia (positive culture), the removal of the uterus, when it alone is infected, is permissible, although seldom successful. In case of infection from local foci in the uterus, which may lead to renewed pyæmic outbreaks (retained putrefying remains of the ovum, decomposed myomata and hydatid mole, criminal abortion), extirpation is indicated with a prospect of success.

With negative cultures and the absence of typical pyæmia, during the first week one should abstain from any local treatment. Local infection, even when very serious (latent thrombotic pyæmia with lymphatic extension of the cause), may be arrested spontaneously and cured, and this possibility it is of the utmost importance not to destroy. One should never interfere, unless compelled to do so, without sure proof of

retained and decomposing ovular remains ; if act one must, after most thorough palpation the uterus should be cleared out completely with extreme caution under anæsthesia, as far as possible with the fingers only (irrigation, drainage). In the subacute stage life may still be threatened by the continued absorption of toxines ; and even with negative blood cultures, the question of radical interference may arise, provided that at least one previous attempt at cure by clearing out the diseased endometrium has proved useless. Cases complicated by tumours, etiologically obscure hydatid moles and miscarriages, require similar consideration. The author then discussed shortly the operations he had undertaken on the basis of blood cultures (three with positive and two with negative success), and in regard to other publications on the subject and their comparison with his cases, referred his hearers to the work he was about to publish.

DISCUSSION ON PROCHOWNICK'S ADDRESS.

LENHARTZ criticised Prochownick's statements on the basis of fifty cases of puerperal fever of which sixteen recovered, and especially denied that culture proof of streptococci in the blood was by itself sufficient indication for extirpation of the uterus, since cases occur in which, in spite of such proof, spontaneous recovery takes place. He had himself seen such a recovery after periarticular suppuration of the shoulder joint, abscess in the lung and empyema. He doubted, moreover, whether the abstraction of blood from the finger could be made so perfectly sterile as to be unobjectionable, and would prefer taking it from a vein, while he attached some importance to the proof of streptococci in the endometrium, and suggested that cases in which streptococci found in the upper part of the genital tract, though their presence in the blood was not demonstrated, were more proper subjects for operative measures than *vice versa*. The autopsies disclosed localised septic endometritis or thrombophlebitis in the parametrium, or various pyæmic conditions almost unnoticed clinically—abscesses in the lungs, kidneys or spleen. The results of the use of antistreptococcus serum were not very encouraging, certainly not decisive. In other streptococcic infections, such as erysipelas, serotherapy had failed, which after the result of the latest experiments (Petruschy-Koch) is not surprising, and too much faith should not be placed in it as a means of cure.

SCHOTTMÜLLER spoke of the bacteriological results of Lenhartz' cases. In five of the lymphatic form of puerperal and in three cases of septic endometritis, blood culture gave a negative result ; in five of seven cases of the pyæmic or thrombophlebitic type proof was obtained. He would point out that

generally the proof was only obtained one day before death, and as the number of micro-organisms in the blood is relatively small they are difficult to find. They more probably come from the vessels of the parametrium than from the uterus itself. Plate cultures should be used, as broth cultures alone do not ensure the detection of accidental impurities.

In the further course of the discussion in regard to the action of Marmorek's serum, BONNE defended the case he lately published against the sceptical criticism of Kümmell and Lenhartz; neither from serum nor from Crede's silver ointment had Kümmell seen any benefit worth mentioning.

FRÄNKEL declared that blood cultures of streptococci were merely the objective proof of a symptom that in itself was not enough to determine a fatal prognosis. Even in the lymph-angiotic form, which does not necessarily lead to peritonitis, other authors have obtained proof of the presence of streptococci though Schottmüller did not do so. These cases, in which the lymphatic channels of the uterus and parametrium are crowded with streptococci without the occurrence of pyæmic metastases, are the most malignant of all. He had himself several times cultivated streptococci in phlebitic cases. His experience of broth cultures, especially when the drop of blood to be examined was mixed with the broth immediately after it was taken from the patient, had been quite satisfactory. In this way the bactericide action of the blood, which when the blood is removed from the vessels, is very considerable, as the experiments of the Berlin Institute for infectious diseases have shown, has less effect. Moreover, when cultures failed, the inoculation of animals with serum often gave positive results. Infection by streptococci is atypical, the virulence of the cocci varies, and as an even approximately uniform serum cannot be obtained, the therapeutic use of an antiserum is not well founded.

RUMPF had used Marmorek's serum for a number of years, and his surprising success at first was afterwards followed by failures. Nevertheless, its beneficial effects, subjective and objective, directly after the injection even in cases afterwards fatal, seem to indicate its further employment. Nor could Rumpf join in the condemnation of Crede's ointment treatment.

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See also Note, p. 277.

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BRITISH GYNÆCOLOGICAL SOCIETY.

THURSDAY, JULY 13, 1899.

H. MACNAUGHTON JONES, M.D., PRESIDENT, IN THE CHAIR.

PRESENT: 25 Fellows and Visitors.

William John Stevenson, M.D., C.M., of London, Canada, was proposed for election as a Fellow of the Society.

SPECIMENS.

CASE OF EXCISION OF THE RECTUM AND VAGINA FOR CANCER. Under the care of CHARLES RYALL, F.R.C.S., Surgeon to the Cancer Hospital, Brompton; Surgeon to Out-Patients, London Lock Hospital; Surgeon to Out-Patients, Gordon Hospital for Diseases of the Rectum.

E. W., aged 51, married, was admitted into the Cancer Hospital on April 4, 1899, and gave the following history. For the last two months she had had pain during defæcation and continuing for some time after the act. She had also suffered from constipation and occasionally from a discharge of blood and mucus. There had been no marked

loss of flesh. She had had no previous severe illness, and had always enjoyed good health. On examination the growth was found occupying the lower three inches of the rectum, involving the whole circumference of the bowel, and it was most extensive anteriorly where the anus and the lower two inches of the posterior vaginal wall were invaded by the disease. The affected part was movable, and there was no evidence of metastatic deposits, so the case was considered a fit one for operation.

Operation, April 8, 1899.—The patient being under the influence of ether, she was placed on her left side in the semiprone position, with the thigh well flexed on the abdomen. A median incision was made from the middle of the sacrum to the anus, and the muscular and ligamentary structures and middle sacral vessels were freed from the lower end of the sacrum and the coccyx. The lower two pieces of the sacrum and the coccyx were then removed by the bone forceps and the exposed part of the rectum was separated from the surrounding soft parts. The peritoneum of Douglas' pouch was incised on both sides of the bowel, and by dividing a little of the mesorectum sufficient of the rectum could be freed to meet the requirements of the case. The bowel was now divided well above the disease and the upper divided end was secured to the skin below the remaining portion of the sacrum, or, in other words, to the upper angle of the wound. The rest of the peritoneum of Douglas' pouch was separated from the bowel, and then the peritoneal cavity was closed by suturing this peritoneum to the anterior surface of the upper remaining part of the rectum. The lower portion of bowel was now rapidly freed from the upper and unaffected part of the vagina, and the lower diseased portion with the diseased part of the rectum and anus was removed. The orifice of the remaining part of the rectum was now secured in the upper angle of the wound as described, in order to form the future artificial anus.

The rest of the wound was then closed by deep and

superficial sutures which thus formed an artificial perineum and necessarily narrowed the vaginal orifice. The bowels were kept confined for forty-eight hours, after which an aperient was administered, but every care was taken to prevent faecal contamination of the wound. The patient made an uninterrupted recovery, and the wound healed by primary union, and she was discharged from hospital four weeks after operation. She is now well and able to carry out her household duties and exercises control over her sacral anus by means of a rubber plug and pad.

Dr. HEYWOOD SMITH asked how far down the posterior vaginal wall the growth extended? Was Mr. Ryall able to leave a part of the vagina?

Dr. C. H. F. ROUTH asked whether the patient had now complete control over the rectum?

Mr. BOWREMAN JESSETT congratulated Mr. Ryall on the success of the case. The only question was whether the same result might have been obtained without removing the lower part of the sacrum. If the finger could be got above the disease the old operation would sometimes answer, and the sphincter action would be retained; but in many cases the disease could not be got completely away without a Kraske's operation. In one case he had the pleasure of assisting Mr. Ryall to remove the upper part of the rectum, and the lower part of the sigmoid; the way in which Mr. Ryall did the operation was deserving of the highest praise; he connected the two parts of the gut, and the patient was now able to get about and pass the motions in the ordinary way.

Mr. RYALL, in reply, said that the lower part of the vagina was affected, so that this portion had to be removed; the effect was that the anus was higher up than usual, and the patient had not sphincter control. By wearing a plug she was able to get about all right. In this case one could not have done the perineal operation, because the peritoneum would have had to be opened in any case.

Dr. HERBERT SNOW exhibited a uterus removed for

multiple myomata from a patient, aged 47. The symptoms were of five years' duration. The patient was worn out by repeated attacks of hæmorrhage, latterly almost continuous, with much pain. The uterine body was completely buried in myomatous masses. Two of these had not only contracted membranous adhesion to the bladder walls, but had become incorporated with them in such a manner as to form two *culs-de-sac*, large enough to admit two fingers. Dr. Snow had not met with this condition before, and would be glad to learn if any other member of the Society had seen it. He regarded the pouches as peritoneal diverticula which had become segregated; like those portions of the funicular process which not seldom remain patent and isolated, upon the spermatic cord, giving trouble in later life. It had been suggested to him that they were lymph-spaces, but he thought they were too large. The nodular masses impinged on the bladder in such a manner as to necessitate careful dissection, and to make it impossible to tie the uterine arteries before division. In thus separating the tumour one suddenly entered a rather large cavity, lined by a mucous-looking membrane. Although the latter had not the rugose appearance of the bladder, it was necessary to pass a bougie before one could feel sure an accident had not taken place. This occurred twice. The Trendelenburg posture was used, and the operation was that modification of Dr. Heywood Smith's which Dr. Snow had lately brought under the notice of the Society. It consisted in dissecting off and suturing together thin flaps of uterine tissue over the residual cervix. Thus all risk of wounding the ureters was obviated, and firmer union was gained than by merely sewing flaps of peritoneum easily torn at the time or subsequently ruptured in attacks of vomiting. The patient made a most favourable recovery.

Dr. SEPTIMUS SUNDERLAND showed the following specimens:—

Case I.—*Subserous Fibroid removed by Abdominal Myo-*

mectomy.—The patient, a nullipara, aged 39, was sent to Dr. Sunderland by Dr. Arthur Thomas, of Wandsworth Common, complaining of constant abdominal pain, and the passage of very thick and clouded urine. She had always suffered from dysmenorrhœa, and had noticed enlargement of the abdomen for several years. Relief from suffering, by any means, was begged for by the patient and her husband; and after a month's trial by rest and drugs, with no result, they wished for operation. The tumour, nodular in places, occupied the lower part of the abdomen fitting very closely to the iliac fossæ, and extending nearly to the umbilicus, and could be felt *per vaginam* pressing on the bladder. The uterus felt retroverted and rather bulky. A sub-peritoneal fibroid was diagnosed, and, on operation, the tumour was found growing from the fundus uteri by a broad rounded pedicle (practically continuous with the large fundus uteri) which, according to the incised area seen on the tumour, would measure 6 inches in circumference, $2\frac{1}{2}$ inches broad, and $2\frac{3}{8}$ inches from before backwards. There was a firm and broad adhesion to the bladder on the left side which required transfixing and tying, and a firm adhesion to the intestine at the upper part of the right which was also tied.

At first he contemplated supra-vaginal hysterectomy on account of the size of the pedicle, which was as big as the enlarged fundus uteri; but instead, he removed the tumour by a circular incision around and through the pedicle. He then removed a wedge-shaped piece of thick tissue from the base of the pedicle, arresting bleeding by four transfixion ligatures, and brought the edges of the stump together by silk sutures. Thus the uterus and ovaries were left to the advantage of the patient. She made a good recovery, and the bladder symptoms and pain disappeared.

Case II.—Large Hydronephrosis simulating Ovarian Cyst, removed by Laparotomy.—The patient, a slightly-built, thin girl, aged 14, was sent to Dr. Sunderland by Dr. Aubrey

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with an abdominal tumour, diagnosed as an ovarian cyst. The patient and her mother had noticed the abdomen increasing in size during the previous thirteen months. Until the week before she came to him there had been no pain, and she then complained of a feeling of discomfort more than actual pain. The whole of the lower part of the abdomen from an inch above the umbilicus was dull on percussion excepting a small space in the right flank. The tumour evidently contained encysted fluid, and was again diagnosed as ovarian cyst, but on opening the abdomen in the middle line the tumour was found to be covered by peritoneum. Dr. Sunderland removed the tumour by enucleation, ligaturing a pedicle containing the vessels and situated several inches distant from the ureter, which was tied separately. There was no hæmorrhage, although the enucleation was not easy in some parts. The fluid was removed by tapping in the course of the operation, and consisted of about seven pints of urine. The flattened kidney substance could be seen at the back part of the specimen, which was much shrunken on account of its being badly preserved. The patient recovered rapidly after the operation.

Mr. J. FURNEAUX JORDAN said that there was sometimes a difficulty in diagnosing between renal and ovarian cysts. He had reported a case before the Society. The abdomen was larger than a full-time pregnancy; the cyst had grown in a few months without pain, and was situated a little more to one side than the other. Examination of the urine gave no result. He opened the abdomen, thinking it was an ovarian cyst; in the cyst were found thirty-three calculi. He did not examine the other kidney at the time, but the patient died in forty-eight hours of anuria. He then found that the other kidney was affected and contained seven large calculi. It was remarkable that the patient had had no pain at all.

Mr. BOWREMAN JESSETT remarked that some few years ago a patient came to him who was passing blood and

pus, and he diagnosed a renal calculus. She would not be operated upon; the pus disappeared, and she got well. After two years she returned with total suppression. She then had a large tumour on the opposite side; he operated, and she got quite well. Two years later she again returned with a large tumour on the same side, and again he took away several calculi. After two years more he operated for the third time, and the patient died. At the autopsy both kidneys were found atrophied, with hardly any kidney-substance. It was remarkable that the patient had been able to live so long.

Dr. HEYWOOD SMITH said that sixteen years ago a young woman came to him with a large tumour reaching above the umbilicus; she had seen Mr. Thornton, who advised aspiration. This was done in the afternoon, and she died two hours later. At the *post mortem* both kidneys were found much distended, and within each was found a large oxalic acid calculus. He asked Dr. Sunderland what method he had adopted for the removal of the myoma.

Dr. ARTHUR GILES commented on the difficulty of diagnosis in these cases. He had assisted one of his colleagues at a cœliotomy undertaken for what was thought to be an ovarian cyst; the tumour occupied the middle line of the abdomen, which it filled, and reached down to the pelvis. There were no symptoms or signs pointing to the kidney as the seat of the tumour. On opening the abdomen the cyst was found to be retro-peritoneal, and its true nature was then, of course, evident. The peritoneum was divided and the renal cyst dissected out and removed. The patient made a good recovery.

The PRESIDENT said that he had twice seen a pyonephrosis mistaken for an ovarian tumour. In one of these, on seeing the case he diagnosed it as renal; on tapping, he drew off two pints of pus; the patient got well. These cases showed very well the disappearance of the kidney-substance and its conversion into a cyst. It was often difficult not only to diagnose between a renal and ovarian cyst, but also

to say which kidney was affected. This was a point in favour of dealing with these cases by the abdominal route.

Dr. F. A. PURCELL remarked that other tumours besides renal ones had been mistaken for ovarian cysts. He had a case in which a patient who was pregnant had a large cystic swelling and was sent into a Hospital for Women; the abdomen was opened and the cyst tapped, when it turned out to be a distended bladder. The nurses, it was reported, had said that the bladder had been emptied, the urine being drawn off with the catheter. The wound in the bladder was sewn up, and the patient recovered, and was subsequently delivered.

Dr. R. H. HODGSON pointed out a diagnostic sign between the two kinds of cyst; with hydronephrosis there was usually dulness in the flank, whilst with ovarian tumours the flank was usually resonant.

Dr. SEPTIMUS SUNDERLAND, in reply, said that he had not passed a sound down the cut end of the ureter toward the bladder as suggested by Mr. Jessett, to determine if a stone were present in the ureter, and he wished he had done so. He had found the actual kidney substance very low down in the abdomen, and he thought possibly the kidney had originally been a congenital "floating" kidney. On the other hand, the kidney substance might have been displaced downwards by the pressure of the urine as it collected. To Dr. Heywood Smith and the President, he said the urine was examined before operation and contained no pus—it was quite clear and normal. No, he had not used Langenbeck's incision—he had thought the tumour was ovarian, and opened the abdomen in the linea alba, and even then it was not easy to decide whether the cyst were renal or mesenteric. He had on two occasions seen the abdomen opened by operators when ovarian tumours had been diagnosed, and when one case proved to be a pyonephrosis, and the other a hydatid of the kidney—both on the left side, but in neither case had the tumour been as large and exactly simulating an ovarian

cyst as in this instance. He had also heard and read of other cases. He was interested to hear from Mr. Furneaux Jordan of a similar experience in his own practice, and he thanked Dr. Giles and Dr. Hodgson for their remarks as well as the other speakers.

CASES under the care of Mr. F. BOWREMAN JESSETT, F.R.C.S., Surgeon to the Cancer Hospital, Brompton.

1.—Case of Large Dermoid Ovarian Cyst removed from a Woman, aged 72—Recovery.

A. M., aged 72, was admitted into the Cancer Hospital on November 8, 1898, suffering from a very large ovarian cyst. Her abdomen has increased in size rapidly for the last three years. At the birth of her last child, thirty-five years ago, she remembers the doctor telling her she had a tumour, and fifteen years ago she was advised to have an examination but declined. She has had eleven children.

Present Condition.—A healthy-looking woman; has lost flesh of late. Abdomen enormously distended, bulging abruptly just below the ribs, of oval shape, with long axis running obliquely downwards and to the left. The abdomen is dull over whole area, excepting just below sternum.

November 15.—I opened the abdomen with a small incision in the middle line below the umbilicus. The cyst presented, and was found to be generally free from adhesions. Trocar was inserted but no fluid escaped; on withdrawing the trocar a quantity of small greyish-brown masses, the size of pearl barley, escaped mixed with thin brownish fluid. There was a large mass containing a nucleus of matted hair. The cyst when emptied was drawn out of the wound. There were a few adhesions to the omentum which were readily torn through, a long pedicle was ligatured and dropped back. The patient made an excellent recovery from the operation. Some time later she had a slight convulsion accompanied by right hemiplegia. Her condition now is much the same, having never recovered from the attack.

II.—*Case of Carcinoma of the Cervix Uteri complicated with Pregnancy—Vaginal Hysterectomy—Recovery.*

E. P., aged 30, married, three children. Patient's attention was drawn to a dull pain in hypogastrium at Christmas, 1898, since which time she had had continuous discharge accompanied with hæmorrhage. The discharge was very offensive. She was admitted into the Cancer Hospital on February 22, 1899.

She is a healthy-looking woman, but complains of pain in hypogastrium. On examination of abdomen tenderness is elicited. Per vaginam the os and cervix are found to be deeply ulcerated; the vaginal walls, however, are not invaded. The uterus is quite mobile. Examination causes hæmorrhage.

February 28.—Vaginal hysterectomy was performed. Uterus and ovarian vessels were clamped by Doyen's forceps. Forceps left on for thirty-six hours before removal. The vagina was packed lightly with iodoform gauze, which was not removed until the fifth day.

The patient made an excellent recovery.

On opening up the uterus, which was enlarged, it was found to contain a foetus of about two months' gestation.

III.—*Case of Fibro-Myoma of Uterus taking on Malignant Action—Panhysterectomy—Recovery.*

Miss R—, aged 56, brought to me by Mrs. Marshall, M.D., with the following history:—No family history of cancer. Menopause—in 1895; late in the year she consulted Dr. Macan, of Dublin, on account of loss of blood per vaginam. On examination some fibroids were discovered. The bleeding, however, continued, and she consulted Dr. Cullingworth, who considered the fibroids were the cause of the hæmorrhage. In 1896 she saw Sir John Williams and Dr. Cullingworth in consultation; they at that time could find no reason to suspect malignancy. She spent the winter of 1896 at the Riviera, but the hæmorrhage

still continued. On her return to England she again sought Sir J. Williams' advice, who then suspected there might be some intra-uterine mischief.

On June 2, 1897, she was placed under ether and the uterine canal dilated, and Sir John Williams removed some growth which proved to be malignant.

It was thought that the disease had invaded the broad ligament, and that it was not a suitable case for operative interference.

She consulted me on October 28, and with Mrs. Marshall, M.D., we placed the patient under an anæsthetic and examined her. The uterus was found to contain several fibroids, and there was a badly-smelling discharge from the os. The vagina was quite free from disease, and the os and cervix also felt healthy. The right broad ligament felt somewhat thickened. On examination per rectum this thickening was evidently due to the presence of fibroids; the whole uterus appeared to be covered with bosses.

The uterus was quite movable, but there appeared to be some adhesion in Douglas's pouch.

The conditions found, in my opinion, quite warranted my advising an operation for the removal of the diseased organs, an opinion in which Mrs. Marshall agreed. Owing to the size of the uterus, I thought it wiser to remove it by the abdominal route, and on November 7, with the assistance of Mrs. Marshall, Mr. Ryall, and Mr. Richardson, Dr. English giving the anæsthetic, I performed panhysterectomy in the usual manner. There were some firm adhesions in Douglas's pouch, otherwise no trouble was experienced. The patient made an even recovery, and a month ago when I saw her she was quite well.

IV.—*Case of Malignant Disease of the Fundus of the Uterus— Vaginal Hysterectomy—Recovery.*

Mrs. R., aged 43, has had three children, youngest ten years, since which time she has suffered a good deal from "bearing-down" pains, in consequence of which Dr. Camp-

bell Pope, her medical man, took her to Sir John Williams, in May, 1890. It was not until May, 1897, that these pains increasing she again saw Sir J. Williams. In September, 1897, excessive menstruation commenced lasting for six weeks at a time, stopping only for three or four days, then commencing again. This state of things continued until April, 1899. On April 12, Sir J. Williams dilated the uterine canal, and curetted the uterine cavity. The *débris* on being examined were pronounced to be malignant.

On June 20 Dr. Campbell Pope asked me to see the patient with him; he administered an anæsthetic, and I made a thorough examination; the uterus was very large and a sanguineous discharge was escaping from the os. The broad ligaments were free, and there was no ulceration of the os or vaginal walls. The uterus was fairly movable. On introducing a sound it passed readily for $3\frac{1}{2}$ inches and caused bleeding.

I advised vaginal hysterectomy, which was agreed to, and, with the assistance of Dr. Campbell Pope and Mr. Ryall, I performed the operation on June 27.

Owing to strong adhesions in Douglas's pouch and the size of the uterus there was some difficulty in delivering it; this was overcome, however, by splitting the anterior wall of the uterus up and pulling it down. The broad ligaments were ligatured. There was, however, some hæmorrhage from a small vessel somewhat high up. As there was some difficulty in ligaturing this I clamped it with a pair of pressure forceps. The patient made a slow recovery and was troubled with some little urinary leakage, which was due probably to the ureter being nipped by the forceps. This, it is hoped, will disappear as the wound cicatrises.

Dr. HEYWOOD SMITH said that it was very interesting to trace the transition in these cases between fibroid tumours and malignant disease. He asked whether a fibroid uterus was more likely to take on malignant action than one that was not fibroid.

Dr. SNOW thought that malignant disease of the body

of the uterus could be extirpated with success much later than when the disease affected the cervix. For this there were two reasons. (a) Carcinoma of the endometrium is practically an encysted new growth. (b) In cervical carcinoma the lymphatics of the vaginal submucosa and broad ligaments are involved far earlier. There were two ways in which myoma and malignant disease might be associated. (1) *Carcinoma* may be indirectly brought on by the consequent chronic congestion. It then generally attacks the cervix. (2) *Myosarcoma* may directly ensue by reversion of the muscle fibre to an embryonic condition. Dr. David Finlay's was the classical case first observed (*Path. Trans.*, xxxiv., 1882). Numerous others had since confirmed the point.

The PRESIDENT said that the course of opinion tended in the direction that a myoma could sometimes assume the sarcomatous type. He had shown a case some time ago at the Society, and had seen another case since, in which myoma and carcinoma co-existed; but in both cases it was difficult to say whether the connection was accidental, or whether the carcinoma was an invasion of the myoma. In cases of large uterus where they were uncertain whether they had to do with hyperplasia or with malignancy, they should be prepared to warn the patient that the uterus might have to be removed. These were just the cases in which a diagnosis could sometimes be made early.

Mr. JESSETT, in reply, said that his main object was to lay stress on the importance of early diagnosis. He had no doubt that for carcinoma of the fundus vaginal hysterectomy was a most successful operation. He had now many cases in which this had been done for some time, and the patients had remained quite well. Cases in which the disease affected the cervix and spread down to the external os were the most unfavourable, for then the glands were involved much earlier. He believed that the prognosis was much better in old patients, say, after 50, than it was in

young women. The same remark applied to malignant disease of the breast.

Dr. GEORGE KEITH showed, for Mr. Skene Keith, the ovaries from a case in which they were removed for a bleeding fibroid, and a diseased appendix from the same case. The patient, aged 27, had had pain in both sides and in the back since she was 18, for which she had had a great deal of local treatment. Four years ago she had an acute attack of appendicitis. Examination showed both ovaries prolapsed, with a retroversion of the uterus. At the operation a fortnight ago the ovaries were found prolapsed and adherent; and the appendix was very long and adherent to the abdominal wall. The interest in the case was the condition of the appendix combined with the diseased ovaries.

The PRESIDENT showed a case of primary tuberculosis of the Fallopian tubes, associated with hæmatosalpinx.

Mr. Targett had made an examination and reported that the chief features of the specimens were:—(1) Closed ostium and moderate dilatation of the tube. (2) The presence of blood distending the tube. (3) Thickened prominent rugæ of mucous membrane of the tube, which were seen embedded in the clot. (4) Microscopical examination showed acute tuberculous infiltration of this mucous membrane which was evidently a primary lesion as there was no tubercle on the serous surface.

Dr. HEYWOOD SMITH had had a similar case some years ago, both sides being affected. He removed both appendages, and after the operation the patient gained considerably in weight.

Dr. POWELL asked whether the lungs had been examined in this case? He had lately seen a case which was thought to be one of primary tuberculosis of the larynx; but later on tubercle was found in the lungs. He believed that most cases were primary in the lungs.

Dr. ARTHUR GILES asked whether in the President's case the tubal condition was associated with hydro-

peritoneum? Four years ago he saw a patient, aged 16, with a cystic pelvic swelling, which was diagnosed as localised tuberculous peritonitis. On opening the abdomen this was found to be the case, but in addition there was tuberculosis of both Fallopian tubes, which appeared to have been the primary seat of the mischief. The lungs had been examined and found healthy. He removed the tubes and drained the pelvis; and the patient recovered and improved greatly in general health.

The PRESIDENT, in reply, said that an interesting feature of the case was this, that the ovaries had been carefully examined, and that there had been found no extension of the disease, either to the ovaries or to the uterus. The latter was small and fiddle-shaped, thus accounting for her sterility.

DESCRIPTION OF "*TRANSFIXOR*": AS PROPOSED AND USED BY CHARLES WARD, F.R.C.S.I. (Pietermaritzburg, South Africa), Fellow of the British Gynaecological Society; Fellow of the Obstetrical Society of London.

The "*Transfixors*" are for use where the surfaces to be brought together are widely separated, as in certain gaping wounds, where the tension on stitches would be great. Also where it is considered possible to do without stitches altogether, by using the *Transfixor*. But it is in abdominal sections where the patient's condition renders it advisable to bring operative procedures to a close as quickly as possible that they are most useful, as the abdominal wound can be closed in a minute, and the anæsthetic stopped, the rest of the proceedings not requiring the use of an anæsthetic.

It will be seen that the "*transfixors*" are simply Kœberle's hysterectomy pins, modified by having a screw arrangement in the middle. They are intended to be included among the instruments taken to an abdominal

section, and if not used entirely in place of stitches, kept in reserve in case the condition of the patient should require their use as explained above.

They should be applied as follows :—

Pass the “transfixor” about $\frac{3}{4}$ of an inch from the margin of the wound, and go through all the tissues involved in ordinary gaping wounds : except in abdominal cases, in which it should be passed down to Cooper’s fascia or subperitoneal tissue, and brought out in a reverse manner on the other side. Unless the peritoneum has been separated from the abdominal parietes it will be found to be in thorough apposition : no stitching is required.



Another “transfixor” is then inserted about $1\frac{1}{2}$ inch from the first, and as many as may be required, usually four, too long (No. 1), two medium (No. 2) ; the small size (No 3), being for parts where a long one would be inconvenient. The edges of the wound are then pressed gently together and a layer of (say) double cyanide gauze, laid along it with or without a dusting of iodoform ; this must not be too thick. Over this a figure of eight twist with sterilised silk is then passed round each transfixor ; the protector is put on, and a light dressing is applied, with pads of gauze under the projecting parts of the transfixors on each side. They may be looked at on the fifth day, and, if necessary, be left on for a fortnight or more without risk.

It may be necessary, if the patient has been very restless, to put in a cutaneous stitch or two at the first dressing, but if care is taken in the application of the transfixors this is unnecessary.

It is claimed for them that :—(1) They are quicker in

application than stitches ; the abdomen can be closed in one minute. (2) They are easily rendered aseptic. (3) If anything they deepen the scar union, rendering it stronger. (4) They leave no stitches or other foreign matter in the abdominal cavity, or peritoneum. (5) They do not constrict vessels or portions of muscles so much as stitches. (6) They allow the anæsthetic to be discontinued sooner, and shorten the whole proceedings by ten to fifteen minutes or more. (7) There is no fear of stitch abscess. (8) They hold the wound firmer than stitches. (9) They are not affected by after-vomiting, they cannot cut out. (10) In the event of secondary hæmorrhage the wound can be re-opened rapidly by simply pulling the transfixors out. (11) And the principle of the screw comes in on their withdrawal ; by unscrewing the transfixor, and drawing out each end on its own side, no material that has been outside the abdomen, or liable to contamination, passes through the deep tissues, as in releasing stitches ; and they are removed with less pain and annoyance to the patients ; the pointed end being seized with a needle-holder at the roughened part near the point.

Illustrative Case, February 16, 1889.—A woman, aged 40, had a movable mass of rapid growth in the region of pylorus and front of stomach, with malignant cachexia. On abdominal section, the cancer was found to involve nearly the whole stomach. Anæsthetist announced critical condition of patient, proceedings stopped ; abdomen closed in one minute in the manner described ; and the anæsthetic discontinued. On the fifth day the wound was practically healed ; a superficial cutaneous stitch or two were put in where the dressing had got disarranged. Transfixors removed on the twelfth day, wound firm and comfortable on thirty-first day, no sign of bulging whatever.

I saw this woman on the seventy-third day from date of opening abdomen. The disease is invading other organs, but the lump for which the abdomen was opened is much smaller. The scar is very firm.

To have delayed closing the wound in order to stitch it (either in layers or not) would in this case have been dangerous, and would have prolonged the operation quite fifteen minutes ; whereas by transfixors the operative proceedings were brought to an end at once.

They are not advisable, or so likely to be effectual, I should think, in cases where drainage is employed. Nor is the idea original except where the screw comes in.

They are made by Messrs. Ferris and Co., Bristol.

HERNIA FOLLOWING ABDOMINAL OPERATIONS : ITS PREVENTION AND CURE. By A. LAPHORN SMITH, B.A., M.D., M.R.C.S.Eng. Fellow of the British and American Gynæcological Societies ; Professor of Clinical Gynæcology in Bishop's University ; Gynæcologist to the Montreal Dispensary ; Surgeon-in-Chief of the Samaritan Free Hospital for Women : Surgeon to the Western Hospital, Montreal, Canada.

ALTHOUGH hernia following abdominal operations is, in the writer's opinion, quite preventible, there is no denying the fact that it occurs with sufficient frequency to render it a bugbear more or less to every physician who advises a patient to submit to abdominal section. Rarely does a discussion take place at any of our great society meetings in which laparotomy as a method of cure is recommended, without some speaker, generally on the opposition side, making the objection that the opening of the abdomen may be followed by hernia. And his objection is a very tenable one, for at the great New York Hospital for the Ruptured and Crippled, the surgeons report an appalling number of patients applying to them in whom this accident has happened after cœliotomy. There may not be so many of these cases in Great Britain and Ireland, but even there one has only to read the journals for a month or two to learn that it is rather a frequent occurrence. When it does happen it gives rise to disturbances, discomforts, and dangers which are sometimes far greater than those of the

disease for which the abdominal incision was made. Many of those who came under the writer's care were suffering from strangulation of the omentum or bowel, and were only saved by immediate operation; while others had reflex disturbances of distant organs, such as the heart and brain, which, while not dangerous to life, yet caused sufficient misery to require the patients to be constantly under medical treatment. And although, as will be presently shown, the hernia can easily be cured, yet the general welfare of abdominal surgery demands that every precaution should be taken to prevent the necessity of doing a second operation. It may have been the experience of many of you as it has been the writer's, that patients who need an abdominal operation frequently demur and object to the operation simply on the ground that once a woman has had one operation she will have to have a second, and perhaps a third. This erroneous idea has been traced more than once to a single instance of some friend whose primary operation for the removal of one ovary, has been followed by a second one for the removal of the other ovary, and a third for the cure of hernia. In fact this has actually happened in the writer's own early experience.

No argument, however, is necessary to prove either the frequency of ventral hernia, or the great desirability of reducing its occurrence to a minimum. Before taking up the question of its prevention, let us for a moment glance at the causes of the accident. Although they are many they may all be included in one category, viz., anything which prevents primary union of the cut surfaces of the middle layer of the abdominal wall, or which allows the newly united surfaces to be drawn apart before the union has been sufficiently well organised to hold the edges together.

By the middle layer is meant the recti muscles and the fascia of the linea alba; by the inner layer is meant the peritoneum; and by the outer layer is meant the fat and skin. One cause which is not generally recognised is the drawing of the peritoneum up between the edges of the

middle layer, so that they are prevented from approximating. This is caused by taking too much of the peritoneum into the bite of the stitches, so that when they are tightened up the peritoneum is squeezed in between the raw surfaces, thus preventing them from adhering to each other. By taking in only an eighth or a quarter of an inch of peritoneum, this cause could be avoided.

It would probably be better not to include the peritoneum at all, as it unites very quickly simply by falling together.

Another cause, which, however, is well recognised, is failing to take in the bite of the stitches sufficient of the middle layer. This is due to the retraction of the middle layer back between the outer and inner layers. In order to avoid this mishap the skin should be pushed back above and the peritoneum below, so that the muscles will be the most prominent part, instead of the most retracted.

The drainage tube is one of the greatest causes of hernia, because it most effectually prevents primary union of the raw surfaces. Not only does it prevent the surfaces from coming in contact at that point, but it very often infects them, causing suppuration and closure by granulation. Ten years ago the writer drained with a glass tube all pus cases, and those in which there were many adhesions, even if there was no pus; but he abandoned this procedure some three years ago, with the result that no hernia has occurred among his cases since then. If drainage must be used it would be much better to drain by gravity through an opening in Douglas' *cul-de-sac*, through which a T-shaped rubber tube has been passed into the aseptic vagina.

But the most common cause of ventral hernia is the custom of removing the stitches much too early. Ten years ago, when the writer succeeded the late Professor Trenholme in the Chair of Gynæcology, it was the practice to remove the stitches on the sixth day, and this was the usual custom throughout America. Whether this was also the practice in Great Britain and Ireland at that time the writer is not

sure, but judging from the recent book of Dr. Webster, of Montreal, in which he advises the removal of the stitches on the ninth day, and as Dr. Webster was, until recently, Assistant to the Professor of Gynæcology at Edinburgh, it would appear that such was the time at which it was customary to remove them in Scotland. Six days, or even nine days, the author of this paper considers far too early a date on which to remove them.

In a paper read before the American Gynæcological Society in 1893, the author expressed his views on this point in the following terms :—"When the edges of the abdominal incision are brought together clean and not bruised and with corresponding layers of tissue in exact apposition, we obtain primary union. Under this term we may include all cases of union in which there is no suppuration or granulation, although it does not necessarily follow that there is no exudation of plastic lymph. The ideal union by first intention is of course one in which the cut openings of vessels and the cut fibres of other tissues exactly correspond and unite, but this probably never occurs after an abdominal section. The union is rather due to the exudation of plastic lymph from the opposite surfaces, which forms a gelatinous glue and which eventually becomes organised into white fibrous tissue. We can obtain a good idea of this process by observing what takes place when the tendo-Achillis is cut by the orthopædic surgeon for the cure of talipes equinus. After the subcutaneous division of the tendon the foot is kept for three days in its former faulty position until the ends of the divided tendon shall have become joined again by the exudation of plastic lymph. When a sufficient quantity of this has exuded, and while it is still in a soft and stretchable condition, the surgeon gradually brings the foot to a right angle with the leg, when there is perhaps a space of two inches between the cut ends of the tendon, which are united however by this band of soft plastic lymph. The foot is then left in position until this material has become thoroughly organised, when

the patient will be found to have the full use of the part. The same thing, I take it, occurs after an abdominal section ; and it is owing to the too early removal of the suture while the plastic lymph is still soft and stretchable, and before it has become organised into white fibrous tissue, that we owe the great frequency of ventral hernia. By leaving in the supporting silkworm gut sutures for one month after the operation, we can avoid not only the risk of ventral hernia, but we are also saved the anxiety of the incision being torn open during a fit of coughing or other effort, and the intestines escaping out of the abdomen, as has occurred in several recorded cases. If the silkworm gut sutures are left in for a month, as I have done in my last fifteen or eighteen cases, they can do no harm, and this accident is absolutely prevented from happening. Although I am not in a position to state the exact time at which the plastic lymph becomes organised into white fibrous tissue, yet I am in favour of leaving in the sutures at least until the process has had time to be completed. In my last few cases I have been introducing a few buried silkworm gut sutures through the cut edges of the abdominal fascia, which of course, remain there during the whole of the patient's life, and which, therefore, render the occurrence of ventral hernia impossible. These were introduced after the through-and-through sutures had been placed in position and before the latter were tied." The above was written six years ago, and seems to have had some influence upon the practice of the abdominal surgeons of America, for since then the time for the removal of the sutures has been greatly extended. After six years' further experience the writer may say that he has left in the through-and-through sutures one month in several hundred cases, and with the most satisfactory results. During the last year he has crystallised his procedure into the following formula : When the abdominal wall is no more than one inch in thickness he employs through-and-through silkworm gut stitches half an inch apart, which he

leaves in one month ; but when the abdominal wall measures over one and under two inches in thickness, he brings the peritoneum and muscles and fascia together with buried silkworm gut, which remains for ever, and the skin is closed with a subcutaneous silkworm gut stitch, which is removed in ten days. When the abdominal wall is over two inches thick, then, in addition, the fat is brought together with fine catgut after the buried sutures have been tied.

An interesting question is, What becomes of the buried sutures ? Are they absorbed ? Or do they remain indefinitely as they were first placed ? In what percentage of cases do they suppurate ? The second question may be surely answered in the negative. The writer has found these stitches while performing laparotomy for the removal of the second ovary more than four years after they were first introduced, and they were as clean and smooth as on the day they were buried, and he believes that they remain indefinitely so. The answer to the last question varies a little, according to the operator and the rigorousness of his asepsis. Dr. Noble, of Philadelphia, reported at the meeting of the American Gynæcological Society, held at Boston last May, 472 cases with 10 suppurations, or less than 2 per cent. The writer has had 3 per cent. in nearly 300 cases, consisting of 102 Alexanders, 120 ventrofixations, about 20 ventral and umbilical hernias, and about 60 ordinary abdominal sections.

Would any other material do as well as silkworm gut ? There are three alternative materials—namely, silver wire, silk, and chromicised catgut. Silver wire has been used a good deal by Kelly, but it has no advantages over silkworm gut. It is harder, takes longer to tie, and is no easier to disinfect than silkworm gut, and suppuration follows in about the same number of cases. It is possibly more permanent ; but then, if silkworm gut lasts four years, of which the writer is positive, that is quite as long as is necessary. If silk could be prepared so as not to suppurate any

oftener than silkworm gut, it would have the great advantage of being softer, instead of having hard and sharp ends. In about forty of his own 120 ventrofixations the author attached the uterus to the abdominal wall with Chinese silk which had been boiled and dried, and then dipped in a saturated solution of iodoform in ether. It was then kept in sublimate alcohol until required for use. In only one case out of forty did one of these stitches have to be removed, and that was in a case complicated with pus tubes which burst and infected the incision. The writer thinks that the pores of the silk being filled with minute particles of iodoform the capillarity of the silk is destroyed, and bacteria are also inhibited from growing in it. In passing it might be mentioned that there is nothing so good as a crochet-hook for removing a buried stitch, which can be done in a moment, and with very little trouble. Chromicised catgut has a great advantage over all these materials; in that we are also able to make it last as long or as short a time as we like. The author prepares it as follows: The catgut is bought from Keller, of Nassau Street, New York, soaked for a month in ether, then for a month in sublimate alcohol one in five hundred; it is then placed in a watery saturated solution of bichromate of potash for a longer or shorter time. One hour's immersion will make it last a fortnight, two hours a month, one day three months and so on. The author, however, has been so well satisfied with silkworm gut that he has only a few times used chromicised catgut in the abdominal incision, although he has used it extensively in plastic work, and he is therefore unable to state from actual experience the length of time it requires for the above-mentioned catgut to be absorbed in the abdominal incision.

Another factor in preventing ventral hernia is the keeping of the patients in bed one month after their operations, and the wearing of an abdominal support for one year. Both of these precautions are unnecessary in cases in which the middle layer is closed with permanent sutures; the writer

frequently allows these cases to be up in from ten to twenty days and to go home in from twenty to thirty. There is absolutely nothing that the patient could do that could cause the incision to open ; and as the sutures are as strong at the end of a year as they were at the beginning there is no need to wear a band at all. This is quite a boon, as many patients complain a good deal of the annoyance of having to wear an abdominal belt. When through-and-through sutures are used and they are left in a month, the period during which it is necessary to keep the patients in bed is very much lessened. One of the writer's patients against his will left his private hospital twelve days after an abdominal section for tubal pregnancy, because her children were stricken with an epidemic disease. This lady was none the worse for her indiscretion, and she walked into his office three weeks later to have the stitches removed. Many others for various reasons have gone home in two weeks, and come back at the end of thirty days to have their stitches removed. All these patients who have temporary stitches, although they have no need to wear a bandage while the sutures are in, are all carefully enjoined to wear one from the time that they are removed.

If, after what the writer has said, anyone will still persist in removing through-and-through stitches in from five to ten days, then he should be most careful not only to keep his patients in bed for one month and firmly bandaged, but after the stitches are removed the patients should be carefully dieted, so as to keep the intra-abdominal pressure down to a minimum, as hernia can hardly fail to follow the so early removal of the stitches while the uniting material is soft and extensible.

In order to obtain primary union and to avoid stitch-hole abscesses, two things are desirable : first, not to bruise the edges of the incision by putting powerful clamps on every oozing spot until, as the writer has seen, as many as a dozen of them are crushing the tissues. Large vessels should be tied individually with fine catgut, while finer

ones should be immediately twisted. Oozing can be stopped by the pressure of very hot sponges.

The silkworm gut should not be tied so tightly as to cut or strangulate the tissues; such force is quite unnecessary; it only requires that the recti muscles which naturally fall together, should be held there by a very moderately tight circle of silkworm gut. The writer has devised two little improvements in technique in order to insure that the margins of the incision will not be distorted by introducing the sutures at unequal distances on the two sides. First, a rubber stamp, having a straight line in the centre and a scale on each side marked off into centimetres from one to thirty, is sterilised by heat, and just before the operation and after the abdomen has been washed up it is stamped from the pubis to above the umbilicus in the middle line. When we come to close the incision we have only to introduce the needle at one number on one side and bring it out at the corresponding number on the other side in order to obtain a very accurate approximation. We are greatly facilitated and expedited by hooking up the top of the incision and raising the whole abdominal wall away from the bowels, and, at the same time, keeping them on the stretch; with a sharp Péan needle mounted on a handle we can pass the sutures through almost quicker than an assistant can thread them. From four to six stitches can thus be passed in a minute, a great saving of time on some other methods, and it makes a much neater result. Of course, the Trendelenburg posture is a great help in doing this quick work, because it keeps the bowels out of the way of the needle. How the wound is dressed has little if anything to do with hernia. The writer covers the incision with sterilised boracic acid.

We now come to the cure of ventral hernia. If the hernia is a small one, the ring not measuring as much as an inch in diameter, it may be cured by the following simple method, which the writer employs in small umbilical hernia, namely, by means of a single buried purse-string

suture of silkworm gut, passed in the substance of the ring and about a quarter of an inch back from the edge. The latter will have been freshened up by the removal of the sac down to the peritoneal surface of the ring, so that when the single stitch is drawn tight it puckers up the ring until the opening is completely obliterated. It is then tied and the ends cut short. The relaxed skin should not be removed but carefully brought together; it is surprising how its redundancy will disappear in a few days. If the hernia is a long one a different method must be employed. The following case in the writer's practice well serves to describe the method he employs. The patient was one of the first cases of abdominal section performed in Montreal by one of our oldest operators, but it was in pioneer times and the stitches were removed in six days, with the result that there was an enormous protrusion of the bowels through an opening at least ten inches in length and six inches wide. As the skin was exceedingly thin and the bowels lay almost next to it, an incision one-sixteenth of an inch deep from without inwards would have gone into the intestine. To avoid this a director was introduced through a small nick in the skin above the hernia, and the skin was cut all the way down from within outwards on the director. The intestines were adherent to the whole length of the fascia which had originally united the edges of the incision, but which had stretched out into a thin membrane after the stitches had been removed. As it was impossible to remove this without injuring the bowels, it was cut off the abdominal wall and the intestines were dropped into the abdomen with this part of the abdominal wall attached to them. The edges of the recti muscles were then sought for and found with some difficulty, and the fascia covering them was split up on each side, and twenty-five buried silkworm gut sutures then brought the muscular surfaces, as well as the peritoneum and fascia, in contact, leaving a thick line of union.

The peritoneum of the sac was removed from the skin

and the latter was brought together without removing any of its redundancy by a subcutaneous suture. Primary union was obtained throughout without one drop of moisture on the dressing, and the patient has been heard from at intervals during the three years which have since elapsed, and has never had the slightest discomfort from the large number of buried stitches.

To sum up the paper :—

(1) Hernia is a frequent complication following abdominal section.

(2) When it occurs it prevents other women from undergoing a needed laparotomy.

(3) It is quite preventible—

(a) By leaving in the stitches for one month if the woman is thin enough to allow us to use through-and-through sutures ; or

(b) By using non-absorbable buried ligatures when the woman is fat enough to require two layers of sutures. The writer prepares his silkworm gut by placing it in sealed glass tubes and boiling it. A cut with a file is made in the middle, and just when it is required for use the tube is snapped across.

(c) By discarding the abdominal drainage tube, and when drainage is necessary, which it rarely is, draining through the vagina.

(d) By securing accurate coaptation of the cut edges by marking the places where the stitches are to go before the incision is made.

(e) By taking care that no peritoneum is curved up so as to come between the muscle and fascia of opposite sides.

(4) Hernia is easily cured in small cases with a single buried silkworm gut purse-string suture ; and in larger cases by splitting the edges of the ring until the recti muscles are exposed from top to bottom, and suturing them with buried silkworm gut.

(5) Patients with buried silkworm gut stitches do not

need to stay in bed more than two weeks, and in some cases less; and they do not need to wear an abdominal belt.

(6) Patients with through-and-through silkworm gut stitches left in for a month, can, in case of necessity, go home in twelve or fifteen days, and return at the end of four weeks to have their stitches removed. They do not need to wear a support until the stitches are removed, and even then it is much less necessary than in patients whose stitches have been removed early.

Dr. PURCELL remarked that stitches remained buried and unchanged for a long time. Thus he had done a perineorrhaphy with buried stitches which had remained for twelve months, and which he had then removed, as they were giving pain. They were unaltered.

Mr. BOWREMAN JESSETT thought it would be interesting to know what 120 ventrofixations were done for in a few years. It seemed a very large number. In England he thought that two weeks was considered a long enough time to leave stitches in after abdominal section. He had used silk for ventrofixation, but had always regretted it, for it so often gave rise to abscess. For the removal of sutures he had not found anything so handy as a crochet-hook.

Mr. FURNEAUX JORDAN observed that probably no two surgeons sewed up the abdominal wall in the same way. The great preventive of hernia was primary union, and the secret of primary union was asepsis. The length of time stitches were left in was not of great importance. As regards suture material, he would not like to leave silkworm gut buried, since the hard ends were apt to hurt; boiled silk answered very well as long as it was aseptic. In most cases he used through-and-through sutures of silkworm gut.

Dr. HEYWOOD SMITH said that since the method of suturing in three layers had been adopted there was very little fear of hernia. Further, the wound healed better if

the incision were made through one of the recti instead of through the linea alba. For the middle layer he thought that interrupted sutures were better than the continuous.

The PRESIDENT did not think that on this side of the water they had an "appalling number" of hernias following abdominal section. He had had only one case of hernia, and that was due to the patient herself, who was insane; she twice did her best to re-open the wound. He took exception to the statement that this kind of hernia was easily cured. He had no doubt that drainage was responsible for many of the cases of hernia that used to occur. His own practice was to use three layers of interrupted sutures. He would not like to bury silkworm gut nor silver wire as advocated by Howard Kelly. The principal thing was to get primary union of the fascia and muscle. He concluded by expressing the indebtedness of the Society to Professor Laphorn Smith for his interesting paper.

THE LATE MR. LAWSON TAIT.

The PRESIDENT dwelt on the great loss the Society had sustained by the death of Mr. Lawson Tait, one of their honorary Fellows. Their loss was shared by Great Britain and Ireland, as well as by gynæcology all over the world, for Mr. Tait was one of the most prominent representatives of this branch of surgery of his time, an original thinker, and a bold and successful surgeon. At a recent meeting of the Council a vote of condolence with Mrs. Tait on their common loss had been unanimously passed, and he felt sure that the Council had but expressed the sentiment of every Fellow of the Society.

The remarks of the President were cordially and respectfully endorsed by the meeting, which then separated.

BRITISH GYNÆCOLOGICAL SOCIETY.

THURSDAY OCTOBER 12, 1899.

H. MACNAUGHTON-JONES, M.D., PRESIDENT, IN THE CHAIR

PRESENT : 23 Fellows and Visitors.

William John Stevenson, M.D., C.M., London, Canada, was elected a Fellow of the Society.

The following gentlemen were proposed for election :—
Arnold W. Warrington Lea, M.D., B.S., F.R.C.S., Manchester ;
George John Morgan, L.R.C.P. and S.I., West Hampstead.

Dr. MACNAUGHTON-JONES showed :—Two uteri removed by vaginal hysterectomy for intractable prolapse, the account of which will be found on another page.

Dr. Macnaughton-Jones also showed a fibro-myoma removed by supra-vaginal hysterectomy. This was a large stony-hard fibroid tumour that filled the pelvis and reached to the umbilicus. The difficulty in removing consisted in the pelvic adhesions, reaching posteriorly to a level with the coccyx. The patient was anæmic, emaciated, and extremely nervous. Myo-hysterectomy was performed. The delivery of the tumour was a matter of considerable difficulty but was eventually safely accomplished and the patient made a perfectly satisfactory recovery.

Dr. HEYWOOD SMITH observed that in one of the first two cases the uterus was myomatous, and so could not be considered as a case simply of prolapse ; and he thought that the term should be restricted to cases of prolapse pure and simple. For cases of simple prolapse he thought that ventrofixation was better than hysterectomy. In the second

case it appeared to him that it would have been sufficient to amputate the cervix.

Dr. MANSELL-MOULLIN recalled the fact that not long ago a case was reported at the Society in which hysterectomy was done for prolapse, and the procedure was somewhat severely criticised; but the question of justifiability need not now be dwelt upon. As to method, there had been suggested a plan which he thought would have done well in these cases, viz., extra-peritoneal hysterectomy by means of the *serre-nœud*. This had the advantage of conserving the pelvic floor; and in Dr. Macnaughton-Jones' cases would have avoided the difficulties attendant on the operation. He had adopted this plan in several cases with very good results.

Mr. FURNEAUX JORDAN (Birmingham) stated that he had done vaginal hysterectomy twice for prolapse, which could not be relieved by pessaries. Both operations were done about ten months ago, and both patients had since returned to hospital with inversion of the vaginal walls, for which he had to perform plastic operations. Consequently he did not feel inclined to try this treatment again. He hoped that Dr. Macnaughton-Jones' results would be more satisfactory. The question arose, what were they to do in such cases? In the case of the first specimen shown it appeared to him that the best plan would have been removal of the appendages and ventrofixation; but he would not advocate ventrofixation in a patient who yet might bear children. As to the most satisfactory treatment of Dr. Macnaughton-Jones' second case, he thought it was a very difficult question to decide.

Mr. BOWREMAN JESSETT said that in the second case he would have preferred ventrofixation because of the difficulty in getting the uterus away, and now that the uterus was away the patient had lost some of the support of her pelvic floor, and prolapse of the rectum or vagina might follow. Such risks would be avoided by ventrofixation.

Mr. CHARLES RYALL remarked that prolapse of the

vaginal walls was very rare after vaginal hysterectomy for tumours, but it was rather more common after hysterectomy for prolapse. He did not agree with Mr. F. Jordan's view that the appendages should have been removed in the first case; in his opinion the best plan would have been amputation of the cervix and ventrofixation.

Dr. MACNAUGHTON-JONES, in reply, said that one of the chief reasons for not doing a simple hysterectomy in the first case was the fact that the cervix was unhealthy. He might have amputated the cervix but this would have had the disadvantage of leaving an unhealthy body of the uterus, which would probably have resulted in a return of the patient's trouble to its original condition. With regard to the second case he hesitated between ventrofixation and hysterectomy, but decided on the latter as likely to be the less severe. If the bladder had not been so adherent it would have been a much simpler operation, but he was deceived as to the bladder attachments. Nevertheless, he did not think that the patient would suffer later on from prolapse, either of the rectum or of the bladder.

TWO CASES OF ABDOMINAL HYSTERECTOMY FOR CHRONIC FIBROID THICKENING OF THE UTERUS. By CHARLES RYALL, F.R.C.S., Surgeon to the Cancer Hospital, Brompton; Surgeon to the Gordon Hospital for Diseases of the Rectum; Surgeon to the Out-patients, London Lock Hospital.

A. B., aged 37, governess, unmarried, was sent to me by Dr. Chas. Heaton, on August 14, 1899, and complained of the following symptoms:—

For the last two years she had suffered from dysmenorrhœa and menorrhagia, and of such a grave nature that she was periodically quite incapacitated from following her vocation. The menorrhagia persisted usually from about seven to ten days, and during that time the amount lost was excessive, with the frequent passage of clots. She also suffered from severe sacral and abdominal pain.

The catamenia had always been copious, and with a considerable amount of pain, but two years ago she suddenly became worse, and since then had been continually under treatment. Drugs, rest, and repeated curetting had been tried but without affording her any relief. She was, therefore, not only willing but most anxious to undergo any surgical treatment which would make her sufficiently well to earn her living.

On examination there was a good deal of tenderness in the hypogastrium, the uterus was found to be enlarged, and reaching just above the pubes, and a small myoma could be distinguished in its anterior wall. The length of the uterine cavity was four inches, and the organ was movable but tender to the touch. Hysterectomy was recommended, and met with the patient's approval.

Operation, September 5, 1899.—On opening the abdomen the enlarged organ was drawn out of the wound, and on examination proved to be very hard and paler than normal, which was due to an excess of fibrous tissue, which could be distinctly seen beneath its peritoneal investment. Hysterectomy was performed, leaving a cervical stump, and the operation was finished in the ordinary way. The patient made an uneventful recovery.

E. B., aged 50, married, was sent to me by Dr. R. H. King and admitted to the Cancer Hospital, on September 11, 1899, and was said to be suffering from a uterine tumour.

Two years ago she had a miscarriage, and since then she had not been well. She complained of constant sacral pain and pain of a throbbing nature, which she referred to the rectum, and which was worse on defæcation. There was a thick vaginal discharge, usually yellow in colour, but occasionally brown, and sometimes foetid. Menorrhagia of a severe nature was a great source of trouble to her; it lasted usually a week, and the loss was very excessive. Drugs, rest and repeated curetting had also been tried in this case, and with a negative result.

On examination the uterus was found to be retroflexed

and fixed in Douglas' pouch, and the fundus enlarged to about the size of a cricket ball, and apparently the site of a small myoma. The os uteri was patulous, but no tumour could be felt within.

Operation, September 12, 1899. — On opening the abdomen the uterus was found firmly adherent in the pouch of Douglas from which it was liberated, and also from some adhesions of the sigmoid. On exposing it to view no tumour could be detected, and the enlargement was the result of the same process of fibroid thickening as was found in the previous case. Hysterectomy was performed in a similar way to the other case. The patient made an uneventful recovery.

Remarks.—These two cases were brought forward to show what the operator considered the proper treatment for trouble of such a nature. The patients were chronic sufferers, and drugs and repeated curetting had been tried to relieve them but in vain, and needless to say the patients were therefore only too anxious to have anything done that would restore them to health. The disease was a fairly common one, was inflammatory in origin, and was frequently traced to septic endometritis. The pathology of the affection consisted in a thickening of the uterine wall by fibrous tissue and a partial disappearance of the muscle elements. A marked thickening of the endometrium was also a feature of the disease. He considered hysterectomy as the proper treatment for these two cases, and as the only means that would effectually restore the patients to health.

Mr. BOWREMAN JESSETT said that these cases raised two or three questions :—(a) Was it desirable to do any serious operation for this condition? (b) If so, should the uterus be removed or the appendages? (c) If the uterus required removal would not vaginal hysterectomy be better than abdominal? (a) With regard to the first point he had himself adopted, with good results, in such cases a milder plan of treatment, viz., curettage followed by burning out

the endometrium with strong nitric acid, plugging with iodoform gauze and washing out with bicarbonate of soda to counteract excess of acid. He would always try this plan before resorting to hysterectomy. (b) Removal of the appendages was a less severe procedure than hysterectomy, and would probably be followed by cessation of hæmorrhage. On the other hand, he recognised that after such treatment the nervous system of the patient might be affected. (c) He would like to know why Mr. Ryall did not operate by the vagina in preference to the abdominal route.

Dr. WALKER SMYTHE asked whether, if the uterus had been left in these cases, any great harm would have resulted to the patient. Not long ago, he had a case of a woman with a myomatous uterus larger than those shown by Mr. Ryall ; she was anxious to be operated on, but he persuaded her to wait ; and the fibroid had now got decidedly smaller. It did not appear to him that there was any great necessity for the removal of the uterus in such cases.

The PRESIDENT said that the question in these cases had been admirably summarised by Mr. Jessett. The most common cause of this condition was hyperplasia of the connective tissue of the uterus followed by formation of fibroid tissue therein. He should never himself remove the uterus for such a condition, unless there were also some indication of malignant changes ; he concurred in what Mr. Jessett had said about removal of the appendages, and this was the course which he would have been disposed to adopt in the present case. He would recall to Mr. Jessett's recollection the fact that it was over thirty years since Dr. Lombe Atthill advocated the use of strong nitric acid for this very condition. This was the only treatment which he himself carried out for many years, until curetting became more frequent, and he doubted whether in those cases of hyperplasia of the uterus they had gained much by giving up the use of nitric acid in favour of curetting, in view of the arrest of hæmorrhage and the reduction in size of

the uterus which the nitric acid brought about. He had heard the treatment adversely criticised, but this was because it was not carried out in the manner prescribed by Lombe Atthill.

Mr. RYALL, in reply, said that he adopted the abdominal route because he preferred it for two reasons: in the first place, it enabled them to deal much more readily with adhesions; and in the second place, they could see much better what they were doing. He had not used nitric acid in these cases because he did not regard the condition as a disease of the endometrium, but as a fibroid thickening of the uterine wall. He did not wait before operating, as Dr. Walker Smythe suggested, because the patients were anxious to be put into a condition in which they could earn their living; and from this they were debarred by their complaint. Everything had been previously tried, in the way of palliative measures, but without result. As regards removal of the appendages, he thought it was always better to remove the diseased organ and leave the healthy ones; and hence he considered it preferable in such cases to remove the uterus.

THE AFTER-EFFECTS OF REMOVAL OF THE APPENDAGES
AND OF REMOVAL OF THE UTERUS. By J. FURNEAUX
JORDAN, M.B., F.R.C.S., Surgeon to the Birmingham
and Midland Counties Hospital for Women.

At the Women's Hospital in Birmingham we have, like all other hospitals, an annual meeting at which the report of the work done in the in-patient department is next, perhaps, to the balance-sheet, the most important document produced. In this report, rightly enough, no mention is made of the previous history, or of the condition at the time of entrance, or of the after history of the patients under our care; but great stress is laid on the mortality rate. Is it under 5 per cent. or over 5 per cent? I have never yet come away from this meeting without feeling how

little light is thrown on our work by this necessarily bare report. At the time of drawing up this report, it is impossible to do more than put on record the immediate result of the operation. I am venturing, then, to-night to dip a little deeper into the notes of my cases, to review them right up to date, to state their present condition, and to point out what lessons I have learnt from this after history of my cases.

The great difficulty in bringing the reports up to date is that some of the patients disappear altogether from observation. The poor people in the crowded parts of Birmingham and the towns of the Black Country think far less of moving house than we or our wives do of a spring cleaning. In spite of this, however—thanks largely to the Post Office—I have been able to trace all but two of them. Another drawback to such a report is that I was not born ten years earlier; none of my cases can present a post-operative history of more than a few years, since I did not begin operative gynæcological work till the beginning of 1893. There are, of course, many cases in which after recovery from an operation the patient remains, as far as the effects of the operation are concerned, in a stationary condition, but it is distinctly different in cases in which the operation involves removal of the uterus or its appendages. It is, therefore, the post-operative progress of these cases that I wish to consider to-night.

I have tabulated my cases of removal of both appendages for disease up to September of last year; the shortest after-history is thus of twelve months' duration. The number of cases operated upon is 43; of these 3 died as a result of the operation. These three deaths followed operation for removal of double pyosalpinx, and were due in each case to perforation of the bowel, and peritonitis on the second or third day after the operation. The total number of cases of pyosalpinx operated upon is 20; the mortality, therefore, of these cases is exactly 15 per cent. None of the other cases have died. It is impossible in a table to go into

minute details as to the severity of the disease. I have indicated the main conditions, and you can see that some of the operations were most difficult, the appendages being buried in adhesions, that others were easy, adhesions being slight or absent, and that between the two extremes were operations of varying severity. Of the 40 cases which recovered, I have got full information of the after-progress in 38. Two of them I have been unable to trace. Of these 38 in the table, the report in 35 cases is founded on a personal interview held within the last month, in two cases the report is founded on a written statement sent me by the patient in reply to my questions. One case died two months after the operation from exhaustion due to advanced tuberculous disease. We therefore have the after-history of 37 cases, and inquires were made as to the following points :—

The severity and duration of the symptoms due to the production of the menopause, and their occurrence at fixed periods.

The continuation of menstruation after operation and the occurrence of vicarious menstruation.

The effect of the operation upon the body-weight.

The effect upon the marital functions.

The condition of the scar of the abdominal incision.

The state of the general health and the capacity for work.

I made a personal examination of the abdominal incision, and, when I thought it necessary, a bimanual examination of the pelvis. I shall neither spend your time nor weary you by reading all the details of Table I. I will try and present you with a summary.

First, then, as regards the severity and duration of the climacteric symptoms.

Taking the latter first, I can only give the duration in 24 cases ; in the other cases the symptoms are still present more or less. The duration varies between five-and-a-half years and a year. The average duration in the 24 cases is

about three years. In examining into the severity of the symptoms I divide the cases into four classes—very severe, severe, moderate, and slight. By “very severe” I mean that the patient not only suffered from heats and flushes and attacks of giddiness, &c., but was occasionally laid up by them and prevented from working. By “severe” I mean that the patient felt them badly, was very distressed during their occurrence, but was never actually laid up by them. By “moderate” I mean that the symptoms were troublesome more than distressing, and were less frequently felt than in “severe” cases. By “slight” I mean that the patient was very little troubled by them.

Three patients, 8·1 per cent., suffered very severely; 12, 33·2 per cent., severely; 10, 26 per cent., moderately; and 7, 19·4 per cent., slightly.

The average age, at the time of operation, of those who suffered very severely was 27, of those who suffered severely the average age was 31, of those who suffered moderately 34, of those who suffered slightly, 32. On the whole, we can draw the conclusion that the younger the patient the greater will be her sufferings from an artificial menopause. A noticeable feature is the youthfulness of the patients—13 of them, *i.e.*, nearly a third, were under 30 at the time of operation. In explanation of this we must remember that many of these cases—the majority of the pyosalpinx cases and many cases of thickened and occluded tubes with adherent cystic ovaries—are due to gonorrhœa. In the poorer classes it is the young child-bearing women who contract this disease from their husbands. Of the thirteen cases under 30 years of age 7 suffered from pyosalpinx, 1 from thickened occluded tubes with cystic ovaries, and 5 from cystoma of both ovaries. This condition, which I have briefly described as “thickened occluded tubes with cystic ovaries,” is one which I have no doubt you all know as well as or better than I do. The patient usually has a history of old gonorrhœa, the tube is thickened and softened, the ligature cuts through it, the contents are a

grumous muco-purulent fluid, and you would not be surprised if you found pus. The tube is adherent to a large cystic ovary, the two forming one swelling adherent to broad ligament, uterus and often bowel or mesentery.

To come back to my table, in 7 cases the symptoms were distinctly worse every four weeks, and in two cases occurred only every four weeks. As regards the continuation of menstruation after operation, I find that it ceased entirely in 27 cases—*i.e.*, in 73 per cent. In ten cases menstruation occurred after operation. The particulars are as follows :—

No. 10. Menstruated regularly for six months after operation ; the quantity lost diminished at each successive period.

Nos. 11 and 12. Menstruation continued regularly, profuse loss and great pain until relieved by vaginal hysterectomy.

No. 14. Menstruated every three months for a year after operation.

No. 19. Menstruated once, three months after operation ; six months after operation had an attack of epistaxis, which was repeated at the ninth month, and finally in another three months had hæmorrhage from the bowel.

No. 21. Hæmorrhage from a small pile every four weeks, never at any other time.

No. 22. Menstruated every three months for two years after operation.

No. 34. Menstruated for nine months after operation, but irregularly.

No. 36. Menstruated once, three months after operation.

No. 37. Menstruated every month since operation twelve months ago, the quantity lost is diminishing.

In all the cases in which menstruation continued after removal of the appendages there were very dense adhesions, and it is quite probable that some ovarian tissue was left behind, which went on ovulating for some time until it became used up, as it were. Especially is this so in the

two cases, in which a double pyosalpinx was removed by post-vaginal cœliotomy. In all the cases but one, No. 37, the symptoms of the menopause were slight, and I am therefore not sure that the patients were any the worse off for a slight persistence of menstruation. They were, as it were, let down easily.

In two cases, Nos. 11 and 12, the menstruation continued without any change for the better until relief was afforded by a vaginal hysterectomy.

In No. 11, after removing from dense adhesions a right tubo-ovarian abscess, I found the appendages of the left side so strongly adherent that I felt at the time I had not removed them entirely. Her condition was so bad after the operation that she begged me to do something to relieve her. I waited two years to see if there was any improvement, and then did a vaginal hysterectomy, the most difficult one without exception that I have ever done. I had to cut the uterus out of a mass of adhesions, so dense that it was absolutely immovable. The relief has been very marked, and she would, as she says, be comfortable if it were not for chronic bronchitis, as a result of which she has a hernia of the scar in the abdominal wall. This I have operated upon once, but owing to her persistent cough it is giving way again.

In No. 12, too, the appendages were very adherent, so much so that the hæmorrhage on separating them was profuse, and led me to use a drainage tube. She, too, got a hernia of the scar four months after operation, which I operated upon immediately with a permanently good result. Twelve months ago she contracted gonorrhœa, and following this her menstruation became more profuse and acutely painful. I did a vaginal hysterectomy for her six months ago, and already she is much better in health. I have gone more fully into these two cases because they perhaps raise the question whether I ought straightway to have done a vaginal hysterectomy, or even the radical vaginal operation. Discussion on this question I will leave for a minute till I speak of the lessons to be learnt as a whole.

As regards the effect on the bodily weight, in ten cases there was a distinct increase, in nine a slight increase, in thirteen no effect at all, and in three cases a decrease. Of these three, one is getting into a condition of chronic melancholia, one suffers from phthisis, and the cause of the decrease in the third case I cannot explain. It is difficult to speak positively as to the effect on the marital functions. The great majority at once replied that it had made no difference; of the others pain on coitus has persisted in three cases, in two cases the desire for coitus has disappeared. Three of them said that they never cared for it and were just the same now. One of the three cases in which pain has persisted is No. 11, already fully referred to. Another, No. 30, had a sharp attack of peritonitis after the operation, and was in bed ten weeks. On examination I found the uterus tender and very slightly movable. There is no doubt that it is to a considerable extent adherent to neighbouring viscera. In the third case, No. 31, I cannot discover the cause of the pain.

We come now to the progress of the scar in the abdominal wall.

In two cases, 4 and 16, there is a little stretching and thinning in the lower part of the incision. It is quite probable that without great care a hernia will form in these cases. A drainage tube had been used in No. 4. No. 10, in which also a drainage tube had been used, developed a hernia in three months, but since I operated upon her four years ago there has been no sign of any recurrence. Nos. 11 and 12 I have already referred to. No. 28 has had a persistent sinus ever since the operation, and I have no doubt that in time a ligature will come out or be removed. In the other thirty-one cases, *i.e.*, in 86 per cent., the scar has never given any trouble and shows no sign of weakness.

Lastly, as regards the general condition of the patient and her capacity for work, I find that, often after a stormy time, good and even robust health has come back to her. I have in many cases put the exact words of the patient

into my table ; if not in her own words, I have endeavoured briefly to give you an idea of her condition.

Are the results, on the whole, as good as one would wish ? Not quite, for I can see now how I might have done better in some of the cases. It is not the final results that are unsatisfactory, it is the intermediate amount of suffering. We must bear in mind, though, that in these cases where adhesions are the rule, it would be foolish to expect no pain or trouble after convalescence. Adhesions and inflammatory deposit round the stump may act for some time as a source of irritation, and may even help in producing post-operative menstruation. Although my earlier cases were free from acute peritonitis after operation, yet I had distinctly more trouble in the after-treatment than I have now. This was probably due to the fact that I did not then carry out the principles of asepsis as thoroughly as I do now.

The cases of hernia of the scar are all among the earlier numbers, for I drained more frequently then, and with a glass tube, than I do now. I believe my cases of pyosalpinx which died, would have lived if I had opened and drained them freely by posterior vaginal cœliotomy. I reported a few cases treated by this route in the *British Medical Journal* a few months ago, when I said that in cases of long duration, in which the pyosalpinx, or an abscess communicating with it, can be felt filling up Douglas' pouch, the operation to be preferred is incision and drainage by vaginal cœliotomy. Further experience has only confirmed me in this opinion. In removal of pyosalpinx by the abdominal route it is necessary sometimes to drain. Would not this be better carried out by incision into Douglas' pouch from the vagina than by a glass tube in the abdominal incision ? We should then do away altogether with the chance of hernia.

In cases of bilateral suppuration in the appendages, unless there is co-existing marked disease of the uterus, I should certainly not remove the latter organ. Severe cases

of double pyosalpinx or tubo-ovarian abscess can be treated as I have already indicated, by the vaginal route without sacrificing the uterus. Removal of the uterus to make a way for the appendages is, under ordinary circumstances, unjustifiable. I recognise that twice I have had to perform vaginal hysterectomy after a previous removal of the appendages, and I grant that in No. 11 I should have had a better result if I had done a vaginal radical operation at first; not, however, because of any disease of the uterus, but because, with her chronic bronchitis, it would have been better to sacrifice the uterus in order to make a way to the very adherent appendages, than to expose her to the probability of a ventral hernia. In the second case the patient contracted a gonorrhœa, subsequently to the original operation.

I operate less frequently than I did for inflammatory diseases of the appendages, for I am more persistent in insisting on rest; unfortunately, in many cases, one is compelled, in the end, to operate in order to render the patient capable of doing her necessary work. In spite of the severity of the symptoms of the menopause, I have been struck by the almost universal restoration to health in these cases. With this return of health comes a corresponding capacity for work. Unfortunately, coincident with this is inability of the woman any longer to bear children. In view of this we have already begun to be more conservative in our operations, preserving whenever possible the appendages of one side, or if not the entire appendages, then sufficient to give the woman a chance of becoming pregnant. These cases do not enter into the scope of my paper to-night, pleasant though it would be to dwell upon them. At least, I may say this, that this conservative spirit, preserving what is healthy, sacrificing what is harmful, has already caused a considerable diminution in the number of cases of removal of the appendages for chronic salpingo-oöphoritis. Everything that will tend still further in this direction should engage our earnest attention, and it is for that reason that I think we cannot value too highly Mr.

Taylor's recent contribution on the treatment of gonorrhœal salpingitis. If we can succeed, as he has succeeded, we shall still further reduce our number of cases of "removal of the appendages." Another thing, too, which will, I think, tend to render the post-operative time more tolerable is the adoption of the vaginal route in suitable cases. I cannot compare the results of the two routes to-night, for nearly all my cases operated upon by the vaginal route have been either for the removal of disease of one side only, or are too recent to present an after-history. The more I use this route the better I like it, and the less troublesome do I perceive the after-history to be.

One other word I wish to add is this, that we see to it that the patients after these operations get good advice and treatment during the artificial menopause. Two or three of those who suffered most had had little or no treatment. Especially does this apply in the tuberculous cases. With one exception they have done well, but have required constant constitutional treatment. The exception never pulled up, but slowly sank two months after operation.

To sum up, then :—

The final result in cases of removal of the appendages for inflammatory diseases is uniformly good.

The severity of the artificial menopause is most marked in young women.

The mortality in severe cases of pyosalpinx treated by abdominal section is higher than one would wish.

The use of the drainage tubes involves a weak spot in the scar.

The likelihood of leaving behind some portion of ovarian tissue is great in cases of very dense adhesions. The effect of this passes off in time.

If the appendages are fully removed, menstruation ceases entirely.

The necessity for, and the advantages to be derived from, removal of the uterus will rarely occur.

I may now add—

Be as conservative as possible, especially in young women, and in "conservative" I include not only operative, but also non-operative measures.

Treat the severe cases of pyosalpinx, if possible, by the vaginal route.

Do not drain unless absolutely compelled to, and then consider the possibility of draining by the vagina.

Do not get disheartened if the patient does not get the full benefit of the operation for some little time.

We come now to a consideration of the cases of myoma for which I have either done a hysterectomy or removed the appendages. I have done one or other or both of these operations on twenty-four patients with myoma of the uterus. Details of the cases are given in Table No. II.

I removed the appendages seventeen times, but from two of these seventeen I subsequently had to remove the uterus.

I did a hysterectomy in the other seven cases, but in one of them the appendages had been previously removed by another surgeon.

No. 1 of the cases in which I removed the appendages died the day after operation with symptoms of hæmorrhage, but I was unable to get a *post-mortem* examination.

One of my cases of hysterectomy died. This case I shall refer to later on, since it taught me a lesson I shall, I hope, never forget.

The chief points I wish to investigate are :—

(a) The effect on the myoma of removal of the appendages.

(b) The severity of the menopause following this removal as compared with—

(c) The severity of the menopause following hysterectomy.

(d) The general health of the patient subsequent to the operation.

(a) The effect on the myoma of removal of the appendages : Since one of the cases died there are sixteen into whose subsequent history we can examine.

TABLE I.—REMOVAL OF THE APPENDAGES FOR DISEASE.

No.	Date	Age	Condition for which Operation was done	Severity and Duration of Climacteric Symptoms	Post Operative Menstruation or Vicarious Menstruation	Effect on the Body weight	Effect on Marital Relations	Condition of Scar	General Health
1	5/8/93	29	Appendages very adherent. Tubes swollen, indurated and occluded. Contents—cheesy pus	Severe; lasted 3 years	None	None	Coitus always painful before operation; quite free from pain since	Good	"Stronger than she has ever been."
2	22/11/93	36	Double pyosalpinx. Both tubes contained over two ounces of pus. Unilateral and strong adhesions	Moderate; chiefly felt every 4 weeks; lasted over 2 years	None	Slight increase	Widow	Good	"Very good."
3	8/2/94	24	Very adherent pyosalpinx on the right side and adherent appendages on the left. Three months pregnant	After safe delivery of full term child suffered very severely; especially every 4 weeks; still suffers slightly	None	None	None	Good	Suffers from severe migraine, and attacks of pain in both groins after hard work; on examination uterus was found to be tender and fixed by adhesions.
4	11/5/94	34	Appendages buried under very dense adhesions. Chronic pyosalpinx of left side and blood cyst of right ovary	Slight; for nearly 3 years	None	Increase	None	Thin and stretched in the lower part	Recovery delayed by abscess breaking into bladder and passage of silk ligature <i>per urethram</i> ; health now very good.
5	25/5/94	22	Right pyosalpinx and left hydrosalpinx	Severe; lasted 4 years	None	Increase	None	Good	Still occasional pain in the groins after hard work; otherwise good.
6	29/5/94	49	Double hydrosalpinx	Over before operation	... ..	None	None	Good	"Very good."

7	14/6/94	32	Large, double tuberculous pyosalpinx. Tuberculous peritonitis with ascites	Very slight ...	Increase	None	Good	Much improved. "Feels very strong and well."
8	29/6/94	29	Cystoma of both ovaries...	Slight; for over 3 years	None	None	Good	"Is very well indeed."
9	22/8/94	30	Both ovaries enlarged and in a condition of cystic ovaritis	Moderate; not over yet	Slight increase	Pain on coitus	Good	No examination made, as patient lives a long way from Birmingham; she writes that she has improved considerably in general health.
10	4/10/94	32	Tubes thickened, occluded and adherent to cystic ovaries	Moderate; lasted nearly 4 years	None	None	In 3 months developed a hernia of the scar; operation in Feb., 1895; condition now very good	"Excellent."
11	9/10/94	42	Densely adherent right tubo-ovarian abscess and inflamed left appendages; some ovarian tissue on left side left behind	... ..	None	No relief to pain on coitus until after second operation	Hernia of scar gradually developed; operation 2 years ago but is re-turning	Has been a "chronic bronchitic" for years, with very severe cough, which is very troublesome and probably accounts for her hernia.
12	16/10/94	36	Inflamed adherent tubes with cystic ovaries; adhesions very dense and free hemorrhage on separating them	... ..	Increase	None	In a few months hernia of scar; operation 1895; condition of scar now very good	History of attack of gonorrhea 12 months ago; after a great deal of suffering is now getting steadily better.

TABLE I.—REMOVAL OF THE APPENDAGES FOR DISEASE.—*Contd.*

No.	Date	Age	Condition for which Operation was done	Severity and Duration of Climacteric Symptoms	Post Operative Menstruation or Vicarious Menstruation	Effect on the Body weight	Effect on Marital Relations	Condition of Scar	General Health
13	5/12/94	42	Both tubes dilated, occluded and adherent to large cystic ovaries	Severe; worse every 4 weeks	None...	Decrease	No pain, but dislikes having coitus	Good	...
14	10/12/94	43	Appendages adherent; tubes thickened and dilated	Moderate; lasted nearly 2 years	Every 3 months for the year after operation	Slight increase	None	Good	Is almost in a condition of melancholia; appetite bad, and slowly losing flesh; was very depressed before operation. "Has not felt so well for years."
15	27/2/95	23	Chronic salpingo-oöphoritis with adhesions	Severe for 12 months; slightly for 2 years more	None...	None	None	Good	In September of same year as operation contracted syphilis; have lost sight of her for last 12 months. Good.
16	19/4/95	32	Chronic salpingo-oöphoritis with adhesions	Moderate; just over now	None	Increase	Freedom from pain on coitus	A little thinning in the lower part Good	Fair; suffers from chronic dyspepsia.
17	17/7/95	32	Both tubes enlarged, occluded, very adherent to cystic ovaries	Severe for 18 months	None	Increase	None	Good	"Very good."
18	28/9/95	37	Cystoma of both ovaries...	Moderate; for 2 or 3 years	None	None	None	Good	Is very well and strong.
19	24/2/96	34	Adherent tubes and small cystoma of both ovaries	Moderate; exactly every 4 weeks; just getting over them	Three months post operative; 6 mths. epistaxis; 9 months epistaxis; 12 months after hemorrhage from bowel	Slight increase	None	Good	...

20	5/6/96	32	Hard cystic ovaries ...	Severe; especially every 4 weeks; lasted nearly 3 yrs.	None	...	None	...	None	...	Good	...	Is not very strong, but on the whole "enjoys good health."
21	29/7/96	34	Pyosalpinx of right side...	Severe for 12 months; gradually ceasing	Hæmorrhage from small pile every 4 weeks	...	Slight increase	...	None	...	Good	...	Good.
22	9/1/97	25	Double pyosalpinx and adherent ovaries; removed by posterior vaginal coeliotomy	Slightly; very nearly over	Every 3 months for 2 years; nothing for 1 a s t 10 months	...	None	...	None	...	...	...	Is in better health than she has been for some years.
23	8/2/97	38	Cystoma of both ovaries...	Severe, and not yet over; worse every 4 weeks	None	...	Slight increase	...	None	...	Good	...	Is quite well, except for some pain from a movable kidney on the right side.
24	23/2/97	40	Cystoma of both ovaries with ascites	Moderate for over a year; not over yet	None	...	None	...	None	...	Good	...	Good.
25	8/4/97	24	Double tuberculous pyosalpinx	Severe; every 4 weeks attack of migraine	None	...	Very slight increase	...	None	...	Good	...	Has chronic phthisis; suffers from cough and shortness of breath.
26	16/8/97	34	Double pyosalpinx; very strong adhesions	Moderate; for 18 months; worse every 4 weeks	None	...	None	...	None	...	Good	...	Very good.
27	13/10/97	33	Cystoma of both ovaries...	Very slight	None	...	Increase	...	None	...	Good	...	Very good.
28	6/11/97	31	Chronic salpingo-oöphoritis	Very severe; still present	None	...	Slight increase	...	Single	...	Good	...	Suffers from the heats and flushes and giddiness; is quite free from her old pain.
29	7/12/97	24	Double pyosalpinx; about 15 and 5 ounces of pus in right and left tubes respectively	Moderate ...	None	...	Increase	...	None	...	Persistent sinus explored 12 months ago with no result; still present	...	Very good; sinus troubles her very little.

TABLE I.—REMOVAL OF THE APPENDAGES FOR DISEASE.—*Contd.*

No.	Date	Age	Condition for which Operation was done	Severity and Duration of Climacteric Symptoms	Post-Operative Menstruation or Vicarious Menstruation	Effect on the Body weight	Effect on Marital Relations	Condition of Scar	General Health
30	11/1/98	28	Adherent appendages, with thickened and occluded tubes	Severe; but getting much less so	None ...	Increase	Slight pain on coitus	Good	Fair; has had scarlet fever since the operation, and has not long been convalescent.
31	18/2/98	29	Cystoma of both ovaries...	Severe, exacerbation every 4 weeks	None ...	None ...	Pain on coitus diminished but not gone	Good	Is very well except at the monthly exacerbations.
32	10/3/98	25	Cystoma of left ovary, with twisted pedicle; small cystoma of right ovary	Moderate ...	None ...	Slight increase	None ..	Good	Occasional attacks of pain in left groin, otherwise is well; on examination can find nothing wrong.
33	23/5/98	21	Double tuberculous pyosalpinx	Very slight; nearly over	None ...	None ...	None ...	Good	Very good.
34	6/7/98	35	Adherent double pyosalpinx; removed by posterior vaginal coeliotomy	Moderate; every 4 weeks only	Continued for 9 months irregularly	Slight increase	None ...	...	"Feels better in every way for her operation."
35	13/7/98	40	Double tuberculous pyosalpinx, universally adherent; tuberculous peritonitis; extreme emaciation	... ..	... ..	... ..	... ..	...	Died two months after the operation from exhaustion; never began to "pick up" after the operation.
36	27/7/98	40	Double pyosalpinx, also three small sub-peritoneal fibroids of the uterus	Slight; still present.	Once, 3 months after operation	Increase	None ...	Good	"Feels very well."
37	9/8/98	34	Hæmorrhagic cystoma of both ovaries and right hæmatosalpinx	... ..	Regularly; loses too much.	Decrease	None ...	Good	Except for losing too much at her periods, is very well.
38	15/8/28	27	Cystoma of both ovaries...	Very severe; still present	None.	Decrease	... ..	Pain in the scar from coughing	Suffers from phthisis, with severe cough and profuse night sweats.

You will see that I had to perform hysterectomy later on in two of these cases, but in one (No. 2) it was, I think, a mistake to remove the appendages. The patient, aged 56, suffered intense pain from a myoma at the back of the uterus, which was almost as hard as a stone. The pain on defæcation kept her in a condition of chronic constipation and its attending discomforts. There was no hæmorrhage. I might have known that removing the appendages would have no great effect on such a fibroid. Although it diminished slightly in size for nearly three years, yet in 1896 the uterus as a whole began to enlarge, the pain got worse, and I thought it best to remove it entirely. This I did on December 4, 1896, and found not only the posterior hard myoma, but a largish interstitial one, becoming submucous, in the body of the uterus. Whether this was present, in embryo, as it were, at the time of the first operation, I cannot say.

The other case in which I had to do a second operation was No. 11. The fibroid was a large single one, reaching some way above the umbilicus. The patient was very anæmic from the hæmorrhage. For a few months the tumour diminished in size and the hæmorrhage ceased, but then it began to grow again rather rapidly accompanied by severe hæmorrhage. I then did an abdominal hysterectomy, for which she is very much better, although she has had a great deal of pain. With the exception of these two cases, the effect of removal of the appendages has been most satisfactory. The tumour has disappeared entirely except in two cases where it has hardly had time to undergo this process, and in these two, Nos. 23 and 24, it is distinctly smaller.

(b and c) The severity of the menopause following removal of the appendages : I find that the sufferings of the artificially created menopause are here much less, on the whole, than in cases of removal of the appendages for disease. But then, compare the average age of the two classes of cases. In the latter it was about 30, while in

these cases of myoma it is 37·5. The menopause following hysterectomy is a little less severe than in cases of removal of the appendages, but again the average age of the patients at the time of operation is higher than that of the patients who underwent the operation of removal of the appendages, it is as high as 40. On looking over both Tables I cannot help noticing that, as a rule, the younger the patient the more she suffers from the artificial production of the menopause, and since the difference in the severity of the symptoms between the cases of hysterectomy on the one hand, and the removal of the appendages on the other hand, is not any more marked than the difference between the average ages would lead you to expect, I cannot put down the comparative immunity of the hysterectomy cases from severe symptoms to the fact that the ovaries were left behind instead of being removed. I think it is of the utmost importance that we should find out for certain if, taking all the cases of hysterectomy, the patients suffer less after the operation than they do after removal of the appendages. I wish that my cases were more numerous so that I could speak with more certainty. At the same time, I think that, if every operating gynæcologist were carefully to place on record the after-condition of all his cases, we should not be long in arriving at a definite conclusion. Possibly it would be different from mine, viz., that the variations in the severity of the symptoms are due mainly to the relative ages of the patients. Certainly I do not see that the difference is such as to warrant us bringing forward the preservation of the ovaries as a strong argument in favour of hysterectomy. I equally certainly believe, though for other reasons, that in some cases of myoma, hysterectomy will give us a better result than any other operation. I recognise that there are cases in which the artificial menopause is felt slightly in young women and severely in older ones. These, however, are exceptional, and we must always bear in mind the many conditions which influence the course of the menopause, as the degree

of susceptibility of the nervous system to stimuli, the surroundings and the habits of the patient, the original cause of the illness, and the continuance or not under treatment, judicious or otherwise.

(d) The general health of the patient after operation :— On the whole the final result is very good ; with the exception of Nos. 3 and 4 they are all in excellent health, and express themselves as feeling better than they have been for some years past.

From a consideration of these cases, and of the cases I have not operated upon, I have come to one or two conclusions as to the treatment of myoma of the uterus.

First, I find that cases do occur in which no operation is immediately called for, which under the continuous administration of ergot and hydrastis combined with rest, may be safely kept under observation for some time, provided always that they do not steadily increase in size.

Secondly, that there are cases which distinctly call for removal of the appendages in preference to hysterectomy. Every now and then we meet with cases where the hæmorrhage has been so severe that the patient is absolutely blanched, where her life has been placed in jeopardy from the hæmorrhage, she lies in bed, white as a sheet, with a small quick pulse, and so feeble that she can hardly speak or move, certainly raising her up will probably cause her to faint. I have had three such cases, Nos. 14, 16, and 24. However skilfully, or by whatever method, a hysterectomy may be done, and however favourable the conditions are, it takes longer, and inflicts more shock upon the patient than removal of the appendages. The extra time and the extra shock, which in an ordinary case will not affect the ultimate result, may in these blanched and almost bloodless patients I have referred to, be just the last straw that breaks the camel's back. In Nos. 14 and 24 I removed the appendages, and the result has been even better than I expected ; in No. 16, because the tumour was not quite so large, and was situated more in the pelvis than the abdomen, I did a

TABLE II.—CASES OF MYOMA OF UTERUS.

No.	Date	Age	Size and Position of Myoma	Chief Symptoms for which Operation was done and Nature of Operation	Effect on Myoma	Severity of the Menopause	Subsequent History
1	5/11/93	29	Median tumour of uterus; softish to the feel	Hæmorrhage; removal of appendages	...	...	Died the day after the operation.
2	16/11/93	56	Hard rounded mass size of an orange in posterior wall of uterus	Pain, especially on defæcation; removal of appendages	Slight diminution	...	In 1896, increase in general size of uterus and increase of pain; vaginal hysterectomy on December 4th, 1896; large submucous fibroid and small hard one in posterior wall; well up to 2 years ago; cannot trace her since.
3	23/11/94	36	Small fibroid—interstitial expanding uterus upwards	Severe pain and hæmorrhage; increase in size during 6 months under observation; removal of appendages	Disappeared	Severe; lasted 3 years	Never very strong; is better than she was, but easily tires.
4	4/4/94	30	Two fibroids — one sub-peritoneal and a large interstitial one	Increasing size of tumour and bearing down pain in pelvis; removal of appendages.	Disappeared	Moderate for 12 months, then gradually ceased	Suffers from headaches; is anæmic; is very poor and has to work hard.
5	27/10/94	45	About the size of an orange; central in anterior wall	Continual desire to micturate; intra-pelvic pain; increasing hæmorrhage; removal of appendages	Disappeared in about 12 months	Moderate, but over in a few months	Is very well; small hernia of scar appeared in 1898; Operation, April 15th, 1898; condition of scar now is very good.
6	5/11/94	28	Nearly filling up pelvis	Increasing in size with severe hæmorrhage; removal of appendages	Disappeared	Moderate, only just getting over it	Has steadily gained in health since the operation.
7	20/12/94	34	About the size of two fists	Severe hæmorrhage; also ovarian cyst present; removal of appendages	Disappeared	Moderate — lasted about 18 months	In excellent health.

8	21/1/95	42	Nearly up to umbilicus; interstitial	Haemorrhage for a year; removal of appendages	Disappeared ...	Slight and soon over	Has kept in very good health.
9	26/4/95	35	About the size of an orange, and expanding right side of uterus	Acute pain and pressure in pelvis for 4 years; removal of appendages	For 6 months menstruation continued, then ceased, and tumour has disappeared	Moderate ...	Health very good; dislikes having coitus.
10	5/6/95	29	Small and low down in the uterus	Severe haemorrhage for 9 months; relieved for a time by curetting; removal of appendages	No sign of tumour to be felt; no haemorrhage since operation	Severe for 2 years, only lately ceased	Is very well and able to work hard.
11	31/8/95	35	Large—3 inches above the umbilicus	Profuse haemorrhage; very anæmic and weak; removal of appendages	For 9 months no haemorrhage, and slight diminution	Severe after the subsequent hysterectomy; not quite over	At the end of 9 months renewed haemorrhage and increase in size of tumour; abdominal hysterectomy May 10, 1896; general health fair; has had a great deal of pain.
12	20/11/95	36	Small hard fibroid in posterior wall of uterus	Pain and haemorrhage; gradually getting worse for 5 years; removal of appendages	Disappeared ...	Moderate for 3 years	Has slowly but steadily gained in health.
13	10/7/96	43	Interstitial; nearly filling pelvis; 3 distinct fibroids	Had had appendages removed in 1883; pain ever since; hysterectomy by combined method	... ...	Slight, ever since first operation	Distinctly better in health; is troubled by a small sinus in vaginal roof, which I have explored, but without result.
14	15/9/96	36	Interstitial myoma up to the umbilicus	Absolutely blanched with haemorrhage; pulse small and quick; removal of appendages	Disappeared in less than 2 years	Slight ...	Is in excellent health.
15	18/1/97	38	Myoma half way up to the umbilicus with pyosalpinx of left side	Haemorrhage; pain and continual loss of flesh; vaginal hysterectomy and drainage of pyosalpinx	... ...	Very slight	Is in splendid health; better than she has been for years.
16	31/8/97	42	Large myoma reaching to midway between umbilicus and pubes	Severe haemorrhage for 3 years; blanched and almost pulseless; vaginal hysterectomy	... .	... ..	Died in a few hours from shock.
17	14/9/97	40	Large median tumour, reaching above the umbilicus	Haemorrhage and rapid growth; abdominal hysterectomy	... .	Moderate; not over yet	Is in very good health.

TABLE II.—CASES OF MYOMA OF UTERUS.—*Contd.*

No.	Date	Age	Size and Position of Myoma	Chief Symptoms for which Operation was done and Nature of Operation	Effect on Myoma	Severity of the Menopause	Subsequent History
18	27/10/97	49	Tumour largely occupying the pelvis, and rising two inches above the pubes	Intrapelvic pressure symptoms and very severe hæmorrhage; patient very anæmic; removal of appendages	Disappeared ...	Slight and soon over	"Feels a new woman."
19	20/11/97	37	Tumour about size of a large orange projecting above pubes	Severe hæmorrhage for 3 years; removal of appendages	Disappeared ...	Severe for a few months; diminishing now	Is in fairly good health, but still anæmic.
20	11/3/98	40	Large nodular myoma filling pelvis and rising into the abdomen	Intrapelvic pressure symptoms and persistent hæmorrhoids; hysterectomy by combined method	... ..	Slight; occasional fits of depression	Is in very good health and feels greatly relieved by the operation.
21	17/3/98	45	Myoma of posterior wall of uterus; filling up Douglas' pouch	Pressure on rectum; severe pain on defæcation, with hæmorrhage from rectum; vaginal hysterectomy	.. ..	Moderate every 4 weeks	Hæmorrhage from bowel every 6 weeks, getting gradually less; a sinus was left in vaginal roof, from which I removed a ligature; present health is very good.
22	4/5/98	36	Small myoma and double pyosalpinx	Profuse hæmorrhage; great pain and emaciation; the vaginal radical operation	.. ..	Slight for a few months	Is in perfect health; looks quite well and plump.
23	4/7/98	45	Myoma about size of a cocoa-nut; in lower part of uterus	Pain and continuous growth of tumour; removal of appendages	Tumour distinctly smaller	Severe ...	Much better; gets occasional attacks of pain.
24	14/9/98	45	Myoma rising above umbilicus	Severe hæmorrhage for 2 years; pulse small and very quick; removal of appendages	Tumour much smaller	... ..	Twice had severe hæmorrhage at 3 and 4 months after operation; since then no hæmorrhage and steady gain in health and strength.

vaginal hysterectomy. I had to slit up the uterus and remove the tumour in pieces, and finally complete the removal of the uterus. I did it fairly quickly, she lost no blood at the operation, and I took every possible precaution against shock, but she never rallied from the operation, dying the same afternoon. I shall never, if I can possibly help it, do hysterectomy again in cases of this kind. Thirdly, for large, unwieldy tumours, dangerous from their very size as much as anything else, and for tumours blocking up the pelvis, rendering life miserable from intrapelvic pressure symptoms, I believe hysterectomy is the treatment. I have had, I think, an undue proportion of these intrapelvic fibroids. The operation is not an easy one, but it is well worth all the trouble involved since the relief to the painful symptoms is immediate and complete. This hysterectomy is, I think, done most easily by the combined method, and in mentioning this I do not wish in any way to raise the question as to the choice of the abdominal or vaginal route. To my mind the route does not enter into this question. In doing a hysterectomy, unless you leave a sub-peritoneal stump, you are obliged to open the vagina into the abdomen. In the combined method you deliberately do all you can from the vagina, cleansing the vagina easily, and separating the vaginal attachments of the uterus with the greatest ease, and, if possible, ligaturing the uterine arteries and opening the anterior and posterior peritoneal pouches. Having done all this extra-peritoneally, you can easily complete the removal of the tumour from the abdomen.

Lastly, for small myomata demanding interference from their rate of growth, from the hæmorrhage and from the pain, I confess frankly that I should hesitate between vaginal hysterectomy and removal of the appendages. I think I should be guided by the stoutness of the patient or by the capacity of the vagina, a stout patient leading me to prefer the vaginal hysterectomy, a small vagina leading me to prefer removal of the appendages. Each case must be

judged for itself, it being impossible to lay down any hard and fast line.

Before concluding this consideration of the effects of removal of the uterus, I must refer to three cases in which I have been compelled to perform vaginal hysterectomy for intractable uterine hæmorrhage. The hæmorrhage had only been slightly relieved by curetting, and no treatment that I could think of had the slightest effect on it. The uterus in each case was enlarged apparently by a general fibrous thickening of its wall. In each of these cases I left the ovaries alone, but they have all three suffered, two of them very severely, and one moderately, from the menopause, but now four years, two years, and eighteen months respectively since their operations, they are over the worst of their troubles. The two who suffered very severely were 23 and 27 years old, the third one was 43. I fail, therefore, to see that if you remove the uterus you save a woman from all trouble by leaving the ovaries. I would save the ovaries by all means if they can help a woman towards ordinary menstruation or child-bearing, but that I ought to prefer to remove the uterus rather than the appendages in a case of myoma, because the woman will suffer less from the former operation than from the latter, I will not say I do not believe, but certainly my own experience does not justify me in believing. I have already indicated what I believe to be the operation best suited to each case, and while believing that a large number, if not the majority, of cases are best and soonest cured by hysterectomy, yet, I hold that there are cases which can be best and most safely, if not most quickly, cured by removal of the appendages.

Lastly, there is one case which I overlooked until too late to insert in the Table, but which would render my results incomplete if left out. On September 14, 1897, I removed the appendages in a case of myoma, reaching about half way to the umbilicus, growing rapidly and causing profuse menorrhagia. She went on very well for about thirteen months with no hæmorrhage and diminution in size of the

tumour, when she became insane and committed suicide just about this time last year. Whether the insanity was a case of *post hoc propter hoc*, I cannot say. The suicide should certainly have been prevented, and would have been, if the advice of her doctor and myself had been followed.

In conclusion, I can only wish I had had a more interesting paper to bring before you; however interesting these results may be to me, I cannot hope that they will be equally so to you. I know, too, that I have brought forward no new facts. I have not compared my figures with those of other surgeons, my object was to follow each case as well as I could to its condition to-day, and to see if we could learn anything from this investigation. If I have succeeded only in part of my endeavour I shall be glad.

Dr. ARTHUR GILES expressed his appreciation of Mr. Jordan's excellent and useful paper. The after-results constituted one of the chief warrants for certain operations, and there was too little known about them. Hence such a contribution as Mr. Jordan's was of the greatest value. With regard to the operation for the removal of diseased appendages, his experience was that such patients did not suffer markedly from the effects of artificial menopause. This was no doubt due to the fact that for some time the diseased organs had not been carrying on their functions properly, and consequently their removal had less effect than was the case with relatively healthy organs removed for myoma, for instance. This was an additional argument in favour of hysterectomy rather than oöphorectomy in the treatment of myoma. He observed that Mr. Jordan had had comparatively few cases of oöphorectomy among his later operations for myoma.

Dr. HEYWOOD SMITH said that it was very interesting to note in the second table the disappearance of the tumour in so many cases, especially among the younger women. The removal of the ovaries after the time of the menopause was, however, also followed by diminution in the size of

the tumour, as he had found in many cases ; but this was rather difficult to explain scientifically. He thought that even now they should consider in certain cases the advisability of removing the ovaries for myoma, as against hysterectomy ; on the other side the fact was to be remembered that after oöphorectomy the uterus might still go on increasing in size. The question was a large one and might profitably occupy a whole evening's discussion. He noticed that, among the cases of diseased appendages, four were put down as tubercular ; probably many of these cases were overlooked in the ordinary course of things. Sixteen cases were gonorrhœal, and it was important to note that infection might be conveyed by men whose gonorrhœa was thought to have been cured years before. He would ask Mr. Jordan whether he had tried ovarian extract in cases where women had had symptoms after removal of the ovaries, and if so, with what result ?

Dr. HERBERT SNOW endorsed the remarks of a previous speaker on the interest and great importance of this paper. He noticed in the second table that, among thirty-eight cases, only one was mentioned as single ; were all the others married ? With regard to the question of removal of ovaries or uterus for myoma, he believed that most women would prefer to have the tumour removed once for all, rather even than to watch the process of its getting smaller. The disappearance of such tumours should always be received with great reservation, in the absence of a *post-mortem* examination ; diminution in size was not uncommon, but total disappearance was very questionable.

Mr. BOWREMAN JESSETT, referring to the treatment of pyosalpinx by vaginal drainage, said that it seemed to him a very good plan. In cases where pyosalpinx had been dealt with by laparotomy he had seen the abdomen flooded with pus. The operator would be spared much anxiety and the patient much danger if these cases were treated by vaginal drainage. For myoma he preferred to remove the uterus and leave the appendages, rather than remove the

latter and leave the tumour ; the risk of hysterectomy was not now much greater than that of oöphorectomy. He had treated a certain number of patients with ovarian extract, after removal of the appendages and in some cases with marked benefit. He would like to hear Mr. Jordan's experience on this matter.

Dr. R. H. HODGSON asked Mr. Jordan whether he had observed any relationship between curetting and tubal disease, in that in some cases curetting may close the uterine end of the tubes, and thus start disease ; also whether in other cases the infection did not travel by direct continuity from the uterus to the ovary, to which it had become attached by inflammation.

The PRESIDENT thanked Mr. Furneaux Jordan on behalf of the Society for his valuable and interesting paper. Some of the questions which it raised had been discussed at the recent Amsterdam Congress ; thus Doyen and Schauta had quite discarded oöphorectomy for myoma. But it was strange how the experience and teachings of Battey, Tait, and many of the American School had been overlooked. For his own part, he did not at all agree with the idea that myoma must always be treated by hysterectomy, for he thought there was a class of case in which oöphorectomy was indicated. There was a growing opinion, both in Great Britain and in America, that the uterus was needlessly removed in a great number of cases. The radical treatment was, however, necessary in some cases ; and he believed that in pyosalpinx with adhesions the classical treatment was removal of the uterus and appendages and drainage through the vagina. The high mortality of operations for pyosalpinx was easily understood ; for pus sacs might rupture and give rise to septicæmia, even when the most elaborate and careful aseptic preparations had been adopted ; this was the reason, in his opinion, why the best treatment was panhysterectomy and drainage. As regards removal of diseased appendages by colpotomy, he did not think the vaginal

route was the easiest, but he believed that this was the operation of the future for conservative operations on the appendages, and in some cases, for their removal. As to drainage, glass drainage tubes should be relegated to museums; soft tubes were better, and iodoform gauze better still. The iodoform should, however, always be sterilised before use. He believed that in most cases sexual feelings were not affected by operations for the removal of the appendages. A patient on whom he operated ten years ago for disease of eighteen years' standing had got married within the last year; and she had not lost sexual feeling and desire. He believed with Lawson Tait that in most cases troubles arising after the removal of the appendages were the result of incomplete operations.

Mr. FURNEAUX JORDAN, in reply, thanked the Fellows of the Society for their appreciative hearing of his paper. The main object of his inquiry was to discover whether patients suffered most after removal of the uterus or after removal of the appendages. It was a question which could be settled by careful inquiries by all surgeons as to the after-results of their operations. The conclusion to which he had come was that it was not simply a question as to which organs were removed, but also as to the age of the patient; the nearer to the age of the natural menopause the less was the disturbance. He had found that post-operative troubles were less after oöphorectomy for myoma than after the removal of diseased appendages, but it was to be noted that patients of the latter class were generally older. He had had no experience of treatment by ovarian extract, but thought it might be worth a trial. As regards the treatment of pyosalpinx, he thought that the results were much better from vaginal incision and drainage than from removal of the appendages through the abdomen, not only on account of the diminished risk of pus in the abdominal cavity, but also because of the frequent bowel adhesions in these cases. Moreover, he saw no advantage in removal of the uterus in these cases; drainage appeared

to him to be sufficient. As he had stated in the paper, he thought that in cases of myoma with much hæmorrhage and blanching it was better to remove the appendages than to attempt hysterectomy; because, after all, hysterectomy involved much more shock; and if the removal of the appendages involved a second operation later on, the latter was done under conditions of much greater safety for the patient, and was rendered all the easier by the previous oöphorectomy.

ORIGINAL COMMUNICATIONS.

THE FOURTH HITHERTO UNDESCRIBED DISEASE OF THE
OVARY—COLLOID DEGENERATION.

BY MARY DIXON JONES, M.D.

New York City.

THE ovary, on account of its important life changes in the growth and development of the ova, and because of its frequent infection, becomes often the field of most remarkable pathological manifestations. We have seen in the ovarian tissues that peculiar growth, endothelioma¹—wonderful in its formation, progress and development, gradually spreading and destroying large portions of the ovary, and in its anatomical character and clinical symptoms giving indications of malignancy.

My first specimens in 1885 were labelled "Sarcoma," but a little further investigation clearly proved it to be an endothelioma, formed of endothelia like those which line the peritoneum and the blood vessels. It was a new disease, giving local pain and causing distressing constitutional symptoms. At that time there was no record in medical literature of such a growth, and in studying it I met with new and continued surprises. It soon fills large territories of the ovaries; its peculiar formations extending even to the periphery; as I said in 1889,² "Why this growth should have the power of destroying every structure of the

¹ *The Medical Record*, August 21, 1886, p. 200; *New York Medical Journal*, September 28, 1889, p. 337.

² *Ibid.*, p. 338.

ovary, even firm secondary fibrous tissue, or why an ovary should so degenerate, or what is its pathological significance are still questions for consideration. When we look at this rapidly growing formation, and the great mass of granules, the impression forces itself upon us that it may be *malignant*. Future investigation may prove it so. Cancer epithelia do not multiply more rapidly, or destroy the tissues more surely, or seem more threatening or monstrous in their appearance and growth."

This growth then, in a most wonderful manner, begins to change into countless millions of blood corpuscles, and amid these myriads of corpuscles, mysteriously begin to appear a multitude of forming blood vessels. A marvellous presentation! a wonderful revelation, like looking into the secret manipulations of nature.

I soon recognised that this curious formation, this most destructive disease, was found in the ovaries of many sick women, causing in each one, pain, feebleness, and emaciation. It proved to be a frequent disease, destroying the life, health and comfort of many women. There were the seas and lakes of blood, while there was a deathly pallor on the face, and a cachexia of the whole system.

But there was yet a more marvellous manifestation. This spreading growth gradually develops in one or both ovaries, that most dangerous formation, hæmatoma or blood cyst. It is: "Endothelioma changing to Angioma and Hæmatoma, the First Hitherto Undescribed Disease of the Ovary."¹

Next we have seen large territories of the ovaries transformed into convoluted masses, separated into groups by a scanty amount of dense fibrous connective tissue, and surrounded by small vestiges of the cortical tissues of the ovary. These hard gyromatous formations, or convoluted masses, oftentimes filling nearly the whole ovary, destroying every tissue, and giving rise to severe nervous and constitu-

¹ *New York Medical Journal*, September 28, 1889, p. 337.

tional disturbances. Usually they originate in the structureless membrane, a thin membrane that surrounds each ovum, and at every menstruation one or more is ruptured. When normal, this membrane lies inactive in the ovary, not producing the least disturbance, but when in this little membrane there commences an inflammation, the inflammation spreads, the membrane grows thicker, the inflammatory corpuscles change to extremely dense fibrous connective tissue; then is deposited a waxy colloid basis substance, till there is formed a broad, firm, convoluted mass, or great nodular fibromata. This: "The Second Hitherto Undescribed Disease of the Ovary."¹

I have also described how all the fine tissues of the ovary may be destroyed by myxomatous degeneration. A most remarkable form of degeneration. In its nature, anatomy, and make-up, it resembles a malignant growth, and evidently has a tendency to sarcomatous formation. This: "The Third Hitherto Undescribed Disease of the Ovary."²

All these different forms of degeneration and disease have marked symptoms, well-defined physical characteristics; and they are all accompanied by more or less constitutional disturbance, local pain, and destruction of the general health.

I desire now to describe "The Fourth Hitherto Undescribed Disease of the Ovary." This is a most curious and wonderful degeneration (see fig. 1). Who could conceive of such formations? They are like stones thrown amid the fine tissues of the ovary. This is the most remarkable and probably one of the most frequent forms of degeneration of the ovary. It seems especially destructive to those life-like and most important structures, the ova. I have often by powers of 400 and of 700 studied the ova thus diseased, and have seen how the various tissues and separate parts were gradually and surely being destroyed

¹ *New York Medical Journal*, May 10-17, 1890, pp. 511-542; *Buffalo Medical & Surgical Journal*, November, 1892, p. 197.

² *The Medical Record*, May 6, 1899, p. 632.

by this peculiar degeneration; and how the whole ovary was being infiltrated with colloid corpuscles, some portions being entirely changed to this material, or completely undergoing this degeneration.



FIG. 1.—COLLOID DEGENERATION OF THE OVARY. $\times 500$.

C C, Colloid corpuscles. O, Ovum. A, Artery. V, Vein.

We see the muscle fibres interlacing, and in the midst, colloid masses. Such formations are found in every part of the ovary. Every different structure shows these masses, in many localities, much more numerous and more thickly strewn than is here represented; even in the walls of the cyst, part in acute inflammation, other portions reduced to fibrous connective tissue, indicating that there have been repeated attacks of inflammation; yet through the whole

of the cyst wall and in every tissue of the ovary were closely interspersed these colloid bodies. How did they come? What produced them? Why are they there?

Of most momentous importance are the destructive changes which this degeneration produces in the ova. In the cortex of many ovaries, large fields under the microscope, and not one ovum is found. In other fields there

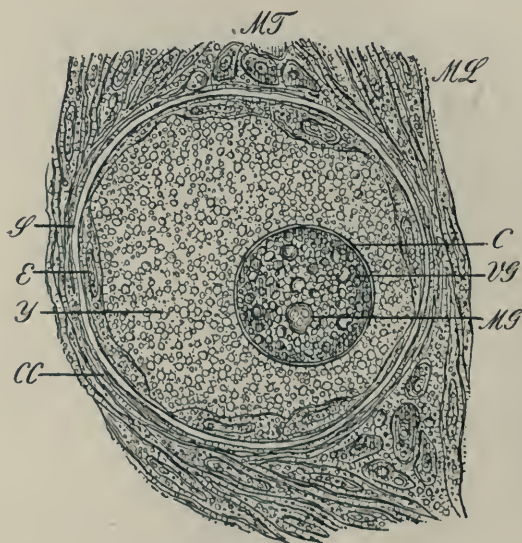


FIG. 2.—NORMAL OVUM. $\times 1,200$.

MG, Macula germinativa. *VG*, Vesicula germinativa. *C*, Cuticula. *Y*, Yolk. *E*, Flat epithelium. *S*, Structureless or basement membrane. *CC*, Connective tissue capsule. *ML*, Smooth muscle fibres in longitudinal section. *MT*, Smooth muscle fibres in transverse section.

are small numbers of ova, and they are filled with colloid corpuscles. In many sections are different groups of ova presenting a most picturesque appearance, and showing the different ways in which colloid corpuscles seem to bring destruction to these wonderful life organisations.

To appreciate more fully these changes, let us look for a moment at a normal ovum magnified twelve hundred

times¹ and see the different anatomical elements. First, we see around a clearly defined white line indicating the basement membrane. Next within this membrane is a layer of epithelia surrounding the whole ovum. These epithelia are infinite in number, and each one is of beautiful formation. Next, the large or light part is the yolk, then within the yolk is the vasicula germanativa surrounded by

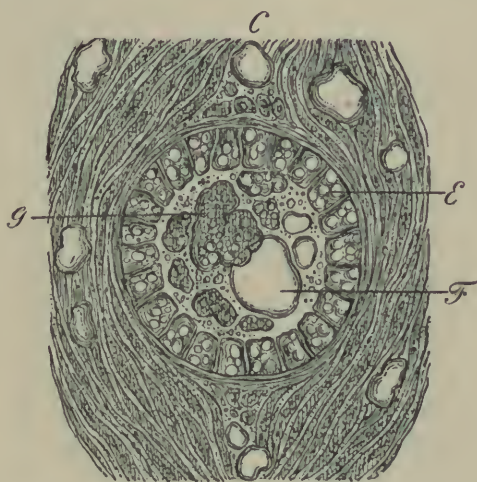


FIG. 3.—COMBINED FATTY AND COLLOID DEGENERATION OF OVUM. x 600.

E, Short columnar epithelium, in colloid infiltration. *F*, Fat-globules. *G*, Coarsely granular colloid masses. *C*, Colloid corpuscles in muscle layer of ovary.

its cuticular membrane. The larger or central nucleus is the macula germinativa, a concentration of life material.

Each structure of the ovum has wonderful life power. It is life material, *living matter*. Probably the fine and high organisation of the ova renders them more susceptible to external influences and more liable to take on morbid conditions. Certainly, it is a sad fact that we find in many ovaries a diseased condition of the ova.

¹ Dalton in his work "Human Physiology," 1875, p. 685, gives the normal ovum magnified 75 diameters.

Fig. 3 represents an ovum in colloid and fatty degeneration.

In the surrounding muscular structures of the cortex of the ovary are seen colloid corpuscles. The ovum has advanced in the first stage towards forming a Graafian



FIG. 4.—OVA IN A HIGH DEGREE OF COLLOID DEGENERATION. $\times 600$.

S, Smooth colloid corpuscle. *G*, Granular colloid masses. *V*, Shrivelled, colloid vesicula, in a vacuola. *H*, Heap of colloid corpuscles, mostly in the epithelia. *E*, Short columnar epithelia in an incipient colloid infiltration. *C C*, Colloid corpuscles in the muscle tissue of the ovary.

follicle. The epithelia are short and columnar, and each one filled with colloid formations, which necessarily destroy their structure and hinder any further development of the egg. The yolk, the vesicula, and macula, the vital parts of the ovum, all seem to be destroyed by large and smaller clusters of colloid corpuscles. There is also fatty degeneration evidenced by the colorless fat globules. We see that the vital parts, that every normal structure of the ovum, are destroyed. Near this ovum are others equally diseased,

presenting an infinite variety as to the distribution of colloid corpuscles within the ova, which colloid corpuscles always carry destruction to the life power of these formations.

Fig. 4 is another illustration of how ova may be destroyed by this degeneration.

In neither of these ova do we find any normal structure. In the upper one the remnants of epithelia are recognisable, the yolk, vesicula and macula are obscured and partially destroyed by colloid masses; and the tendency to a still greater destruction is manifest by the large colloid corpuscle marked S. embedded in the yolk.

In the lower ovum, large colloid bodies are massed in the upper portion, and the epithelia, now stratified, or columnar, are crowded with smaller colloid corpuscles, and the granular matter within the epithelia shows a still advancing degeneration. An infinite variety of this degeneration is manifested in the different ova, and each one gives indication of a complete destruction of all capability of any physiological function.

Figs. 1, 3 and 4, represent diseased ova found in the ovaries of the same patient, Mrs. A., aged 21. She called at my office, September, 1888, burdened down with sorrow and suffering; sick, feeble, and heart-broken. She declared she had constantly such pain and distress that she could no longer attend to her household duties; but that her greatest sorrow was that she had been married some years and no conception. This is a sad side of this disease.

In this patient the uterus was found to be anti-flexed, and in extreme retroversion; ovaries enlarged and lying below the uterus, and extremely sensitive. Tubes enlarged, adherent to the ovaries and contained pus. The patient came repeatedly with her sad story of sorrow and suffering. She had been under the treatment of various physicians, and any effort of mine to make her comfortable or restore her to health would have been equally ineffectual. It was a necessity to remove the dangerously diseased structures.

This was done at the Woman's Hospital of Brooklyn, November 10, 1888. The patient made an excellent recovery, and, when last seen, she was in the enjoyment of excellent health. After the diseased organs were removed she had comfort, relief and health. As in other cases, I was determined to know what was the nature of the disease that gave this sick woman so much trouble and distress, and was such a source of suffering.¹ In the ovaries of this patient I find endothelioma, gyroma, pigmented gyroma, oöphoritis, and this colloid degeneration. Pigmented gyroma, that is, their epithelia filled with granules of pigment, may indicate a more dangerous form. All through the cortex of both ovaries are colloid corpuscles. In many sections the muscle tissue is much more crowded with colloid bodies than is represented in this figure. In some sections placed under the microscope, power of 400, there are extended fields and not one ovum, while, in similar sections of the ovaries of some women, I have counted as many as 140, 162 and 194;² but in this case, this peculiar form of degeneration seems to have made complete destruction of many of these fine and beautiful organisations. In other fields there are small numbers of ova, and they are all filled with colloid bodies. In one section, after many fields where there is not one ovum, comes a field in which there are two ova, both in

¹ I said in 1890 (*New York Medical Journal*, May 10, p. 512) "In every instance, in removing diseased structures or any kind of tumour by abdominal section, I have been interested, and determined to know the exact pathological conditions, and thereby find out the cause of suffering and the nature of the disease. So I have pursued sedulously the microscopical study of every case; and these investigations have fully repaid me, not only in the wonderful and beautiful facts they have revealed, but by having enabled me the more intelligently to help suffering women."

² Sappey gives 400,000 as the number of ova in a normal ovary. With this gauge, 194 in one transparent section, we might readily imagine there might be more than 400,000 in the ovary of a healthy woman. Nature is always abundant in her supplies. There are more blossoms on the apple-tree than ever come to maturity.

colloid degeneration; then one ovum with large colloid corpuscles in the yolk, and the vesicula and macula filled with smaller colloid bodies. Near by are two ova in one membrane, both in colloid degeneration, then two ova, almost destroyed by a crowd of colloid formations; then only a remnant of an ovum, then a shadow where one has been.

Colloid degeneration seems to make peculiar and overwhelming destruction of the ova. By my researches within the last few months I am more and more clearly convinced that ova are certainly, and without doubt, destroyed by this degeneration, and finally disappear. So many instances are seen in which the ova reduced to colloid degeneration, are gradually disappearing; sometimes only a dot or fold of colloid material is left; then there would be fields with not one ovum, then again fields in which masses of ova are almost destroyed by these colloid bodies; one group of twenty, another group of fifteen, almost gone, and still larger groups in ruins. Thus the ova are changing and disappearing. Of the few left, I do not find in either ovary one normal ovum; all present a most picturesque appearance of ruin and desolation chiefly from this degeneration.

The walls of several cysts are found in acute inflammation, and in them are scattered many colloid bodies. Near to one cyst, whose wall is in most intense inflammation, is an endothelioma, and in the endothelia are countless numbers of colloid corpuscles. The fine endothelia are filled with life granules, and amid the life granules are the colloid bodies.

This is the first time, so far as I know, that colloid formations have been recognised in an endothelioma. In some clear spots are seen many endothelia, and in the fine structure of each one, and amid its life granules, are crowded these small colloid formations or granules. It is a wonderful showing.

Cornil and Ranvier, in their work,¹ give a drawing of

¹ "A Manual of Pathological Histology," 1880.

cancer. They say (fig. 82, p. 104): "Cells infiltrated with colloid matter." This figure presents something of the appearance I have seen in many endothelia, except that the endothelia are probably more marked by being crowded with bright colloid bodies of different sizes.

The above-mentioned authors further say: "The cells become loaded with drops of colloid matter, become spherical, vasicular, and finally destroyed." So, according to the opinion of these eminent authors, colloid corpuscles, which we find so frequently destroying the ova, destroy the "cells of carcinoma."

The same authors (p. 637) give a representation of "colloid degeneration of the epithelial cells of a uriniferous tubule, in interstitial nephritis," showing that this degeneration equally destroys the epithelia of the uriniferous tubule.

Delafield and Prudden,¹ in their excellent work, give the same testimony. They say: "The cells of certain carcinomata, especially of the gastro-intestinal canal, may suffer a more or less complete infiltration with a translucent material somewhat resembling gelatin and called colloid, whose nature is not well understood. Sometimes this infiltration is only partial, when the protoplasm of the cells may be more or less encroached upon by the translucent droplets of the colloid material; but in other cases, over large areas, the cells are partially or entirely destroyed and replaced by the new material, so that the alveola of the tumour are destroyed by it."

Erichsen² gives an account of "colloid material filling the cells of an alveolar cancer." Ashhurst³ also pictures colloid material in alveolar or colloid cancer.

Why should it be called "Colloid Cancer?" It is only that in some cases of cancer the epithelia are infiltrated with colloid material. Professor H. C. Warren⁴ very truly says:

¹ "Pathological Anatomy and Histology," p. 341.

² "Science and Art of Surgery," 1881, p. 764.

³ "The Principles and Practice of Surgery," 1871, p. 487.

"Colloid cancer should not be considered as a special variety, but rather as a form of degeneration."

⁵Gross gives an illustration of a colloid tumour of the ovary, and says: "It is doubtful whether the majority of so-called carcinomata are not really examples of colloid degeneration of the fibrous tissues of the ovaries." But we find colloid degeneration in other tissues of the ovary beside the fibrous.

While in some of the endothelia of the endothelioma there are countless numbers of colloid corpuscles, near by are blood vessels whose walls are in waxy degeneration, some vessels reduced to a waxy mass, their calibres closed, causing complete endarteritis obliterans. Other vessels are in colloid degeneration; the muscle tissue of the walls is reduced to colloid substance, and the calibres are closed, showing equally complete endarteritis obliterans.

In another section of the same ovary is seen an endothelioma, and the connective tissue penetrating it in various directions is in waxy degeneration; and in this waxy connective tissue, and in the endothelioma are alike scattered colloid bodies; while the neighbouring blood vessels are in extreme waxy degeneration, as also the wall of a cyst is in bright waxy degeneration, and enriched yet more by clear colloid corpuscles, altogether making a picture brilliant and almost radiant. No one can tell half the beauties and marvels that are repeatedly presented. In every section new wonders are continually being revealed, and at the same time they are making revelations as to the true pathology of the ovary. In one section of almost a whole of the right ovary there are, first, an endotheliomatous growth, then a large gyroma, then another endothelioma, then the whole cortex is bright with colloid formations, and wondrously and marvellously diseased ova.

In the left ovary of this patient is a group of ova, in the

⁴"Surgical Pathology and Therapeutics."

⁵"System of Surgery," vol. ii., p. 905.

midst of a shower of colloid corpuscles, and these ova are all in waxy degeneration. Again, in a perfect crowd of corpuscles is one ovum in full, bright, waxy degeneration; another, surrounded by colloid corpuscles, is only a waxy mass. So are seen repeatedly these different and wonderful combinations.

It would be impossible to speak of the pathology of the ovary without considering the morbid changes of the ova. No doubt, one day, the diseases of the ova, their marvellous forms of degeneration and destruction, will be considered one of the most important chapters in the pathology of the ovary.

Of equal importance will be the wonderful growths, and peculiar formations arising directly, or indirectly, from diseased conditions of the ova. Changes originating in the ova, or connected therewith, constitute many of the most remarkable pathological developments found in diseased ovaries.

The ova are the most vital parts of the ovary. They are not only highly organised, but they are masses of living matter. For them, the ovaries really seem to exist. The ovary is only a sac to contain, or a receptacle for these most important structures; or a laboratory for their marvellous life changes. Apart from the ova, the ovary consists of a few anatomical structures, muscle fibres, connective tissue, blood vessels, &c. Kölliker, in 1854¹, gave the following description: "The ovaries are a stroma containing the ova." Dalton's description is: "The ovaries consist of Graafian follicles imbedded in a somewhat dense connective tissue, supplied with an abundance of blood vessels,"² and, "in the common fowl the ovary consists of follicles, loosely united by connective tissue."³

All this shows the exceedingly simple necessities of the ovary. *The ova are the important parts.* It is diseases

¹ "Manual of Human Microscopical Anatomy," 1854, p. 640.

² "Human Physiology," p. 692.

³ *Ibid.* p. 689.

of the ova that make the marvellous pathological developments, such as gyroma, solid formations, oftentimes filling nearly the whole ovary ; or the spreading endothelioma extending to the periphery, and changing all the tissue to a sea of blood ; or to that peculiar degeneration, myxomatous, which is more apt at any time to develop, because at the bursting of every Graafian follicle there must be repair tissue, which is myxomatous, long since known to constitute the granulating tissue, always appearing when a loss of substance is to be filled in. If at the appearing of this repair, or myxomatous tissue, there is an already existing oöphoritis, then from this inflammatory tissue, or protoplasm, a myxomatous degeneration may invade the whole ovary.

Yet another form of degeneration finds its origin in connection with the ova, viz. : ovarian cysts. This I have clearly proved by some recent researches, and which I will demonstrate at some future time.

All diseases of the ova commence with infection, whether in this infection are microbes or not, or whatever may be the nature of the infection, or the names of the microbes ; all the same the disease comes, and goes on spreading general devastation : and, somehow, the ova seems to be the first affected, often inflamed and diseased even when there is healthy tissue around. In these life formations, oftentimes commence the most serious troubles ; and we recognise that in them is frequently the beginning of various and remarkable forms of degeneration, or change, so often found in diseased ovaries.

Whatever may be the form of the degeneration it is always preceded by an inflammation, or reduction of the tissues to protoplasm ; and from the protoplasm may be developed any kind of new growths or degeneration ; growths as above-mentioned, endothelioma and gyroma, or more solid "ovarian swellings," as sarcoma, myxosarcoma, "lymph-angioma kystomatosan," or carcinoma.

To be continued.

REPORTS OF TWO NEW METHODS IN GYNÆCOLOGY.

BY H. MACNAUGHTON-JONES, M.D., F.R.C.S.I. & E.

THE readers of the BRITISH GYNÆCOLOGICAL JOURNAL may be interested in the details of two comparatively novel procedures in Gynæcology, the one operative, the other therapeutic. Through the kindness of Professor Jacobs, of Brussels, and Dr. Félix Jayle, of Paris, I am enabled to present engravings which illustrate these summaries of their papers.

1.—*Electro-Hæmostasis as a Substitute for Ligature or Forci-Pressure.*

Prof. Jacobs¹ advocates, in lieu of ligature, clamp, forci-pressure or the lever *pince* of Doyen, the method of *angiotripsie* or forci-pressure introduced by Skene, of Brooklyn, in which pressure by heat is utilised by a special forceps or clamp heated by electricity. Prof. Jacobs says that it offers these special advantages: the tissues do not slough, and it enables us to act on a large surface including the tissues that separate the vessels. He rightly credits Skene, of Brooklyn, with the realisation of the principle that hæmorrhage can be controlled, by the modern method of securing the vessels as they emerge from the pedicles under the peritoneum, by means of electrical hæmostasis.

The instrument employed is an ordinary forci-pressure forceps, one of the branches of which has its blade hollowed so that the interior of this small cavity contains a platinum wire completely isolated by incombustible material. One

¹ *Revue de Gynécologie*, Pozzi, July-August, 1899.

end of the wire is joined to the blade itself, while the other is attached to an isolated copper wire which extends for the length of the forceps to its handle where there is a small block of metal. In this the copper wire is isolated, and passing through it ends at a few centimetres from it. Another short copper wire is attached to the block close to the handle. The instrument can be thoroughly sterilised and then used like any other *forci-pressure* forceps. The



FIG. I.—Electro-Hæmostatic Forceps.

electric current passes through the copper wire and heats the platinum in the forceps blade. The electricity can be obtained in the usual manner from the ordinary main, and a rheostat may be interposed so as to regulate the strength of the current according to the size of the instrument and the end there is in view. A flexible cable enables us to apply the instrument at a distance from the electrical source, and it is so isolated and jointed that the termination of its wires is directly continuous with those of the instrument. The idea of this method is to

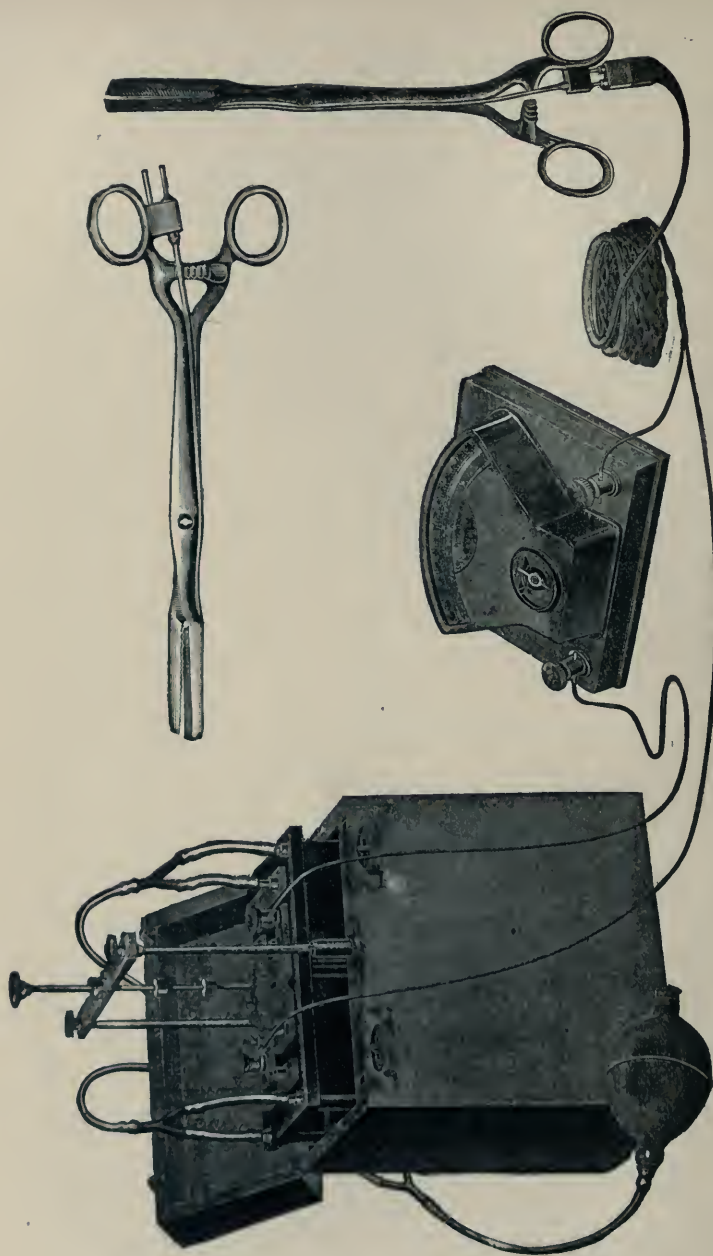


FIG.2. — Battery, Galvanometer, Coil and Electro-hæmstatic Clamp Forceps.

compress between the blades of the forceps a part of the tissues adjacent to the end of a vessel, expel as much blood as possible, and then secure complete desiccation by the heat developed in the forceps. The necessary temperature is from 80° to 90° . The tissues are neither bruised nor charred. The instrument can be sterilised with the others necessary for an operation. When applying it a little sterilised vaseline should be smeared along the blades of the forceps, so as to prevent adhesion of the tissues. The end of the cable can be sterilised in boiling water and then wrapped in a compress of sterilised gauze. In applying the forceps the tissue immediately adjoining the vessel is isolated, so as to avoid the effects of radiation; the connections are now completed, and the current is passed.

Fig. 2 shows the battery and the attachment of the cable to the forceps. A galvanometer should be interposed so as to judge the strength of the current and the time necessary to produce the desiccation. This being effected, the current is closed by removing the cable, and the tissue which extends beyond the blades of the forceps is cut. The forceps is now opened cautiously so as not to tear the tissues. The time necessary for the desiccation is from sixty to ninety seconds.

Looking at the calibre of a vessel which has thus been compressed, it has a flattened appearance somewhat resembling parchment, and the compressed tunic becomes translucent. The dried portion, after it has been well soaked in water, remains firm and unbroken, and any dissection of the component parts of its tunics is impossible, nor can we recognise its various elementary structures with the microscope. The adjacent tissues undergo the same changes. The lumen of the vessel is with difficulty determined. Identical results follow the application of the instrument to the vermiform appendix, nor can any trace of the mucous elements be found.

We have another good example of the effects of this

form of hæmostasis in its application to the pedicle of an ovarian cystoma, and this has to be remembered, that where such a result is desirable it produces an occlusion of the lymphatics, and thus opposes an obstacle to the spread of infection ; further, so contracted is the surface of the



FIG. 3.—Applied to Ovarian Cystoma.

divided pedicle, that it does not offer any bleeding surface calculated to contract adhesion with surrounding structures. In those cases in which the friability of the tissues renders the application of a ligament difficult and risky, electro-hæmostasis is complete and safe. Thus we see the advantages which are claimed for this method of preventing

hæmorrhage. It is clean and rapid in its action, permanent in its effects and disinfectant, preventing the spread of infection while lessening the risk of inflammatory adhesions. During ovariectomy and hysterectomy, if there be omental or intestinal adhesions, these may be destroyed by a quick application of the forceps, and the bleeding of small vessels controlled. A special protective forceps is used by Skene, in the instance of intestinal adhesions, to protect the coils of intestine. The applicability of this method to the pedicle

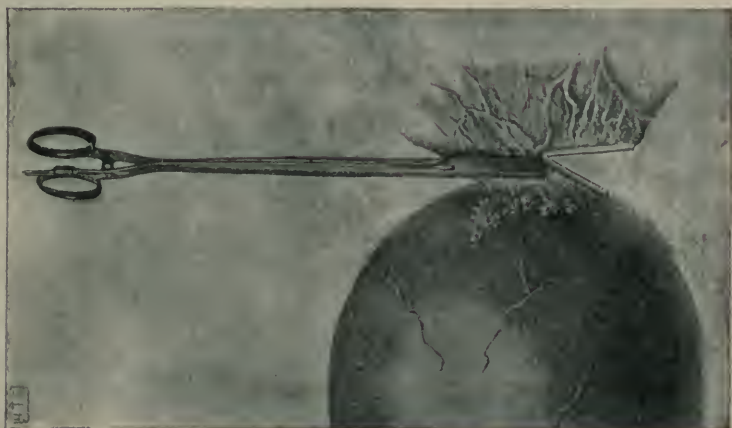


FIG. 4.—Electro-Hæmostasis applied to Round Ligament.

of an ovarian cystoma is obvious. In abdominal total hysterectomy the ordinary hæmostatic forceps are quickly replaced by the electrical forceps, the round ligament is secured in the same manner (fig. 4). A minute and a half or two minutes is sufficient for the ovarian or uterine arteries, and one minute for the round ligament. The desiccated pedicles are covered by the peritoneum by means of a catgut suture. In salpingo-oöphorectomy the same plan is pursued, the hæmostatic forceps being replaced by the electrical.

Jacobs, with six abdominal hysterectomies, and two

ovariotomies for large cystoma with twisted pedicle, had no accident, and Skene, with more than 200 abdominal operations of different kinds, had no hæmorrhage. Jacobs cites a case in which he resected a large portion of the



FIG. 5.—Electro-Hæmostasis in Panhysterectomy.

omentum, and instead of ligaturing he used the electrical forceps, with perfect control of all hæmorrhage. Jacobs argues that even if an operation be slightly prolonged beyond the time occupied by the simple ligatures, the

delay is compensated for by the advantages offered by the method. In appendisectomy, in a minute and a-half to two minutes, the application of the forceps allows of section of the tissues on a level with the instrumental constriction. There is no necessity to place sutures of any kind, or to refold the pedicle of the appendix under the peritoneum. The intestinal mucous membrane is united



FIG. 6.—Electro-Hæmostasis in Panhysterectomy.

and the canal of the appendix is closed. There need be no apprehension in returning the cæcum into the abdomen.

These advantages are claimed for the use of electro-hæmostasis over the ligature in removal of the appendix. The organ is divided without the escape of its contents on the adjacent surfaces, also without risk of perforation or abscess of the wall of the cæcum from the invagination of

an infected pedicle, and the extension of the infection into the pedicle between the ligature and the incised end.

In vaginal hysterectomy the forceps used are longer than those employed in abdominal hysterectomy, so as to enable the surgeon to obtain greater security. Further than the substitution of the electrical for the ordinary forceps, there is nothing exceptional in the operation.

II.—*Vibration Treatment of Fibromata and Adnexal Affections.*

Doctors Jayle and De la Croix de Lavalette have published, *lib. cit.*, a complete communication on the treatment of uterine and adnexal affections by mechanical vibrations (*Sismo therapie mechanique*), contrasting this treatment with

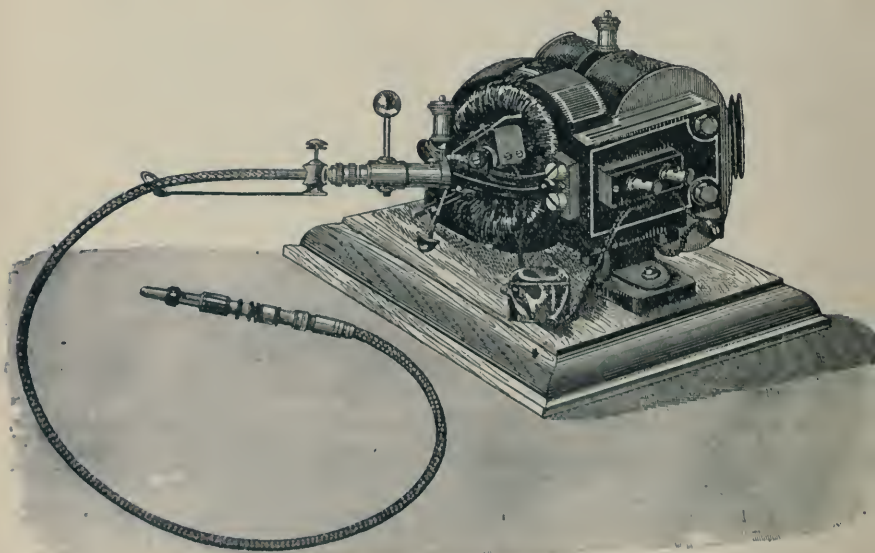


FIG. 1.—Electrical Motor and Cable with Stem.

massage and its relative utility. The results of the two methods are somewhat analogous, but the sismotherapeutic treatment, they claim, has the advantages of being very

simple ; anyone can practise it and there is no necessity for vaginal manipulations.

They report that the immediate results are good and that an amelioration of the symptoms is rapidly obtained. They claim for it that it is a palliative therapeutic method which can be employed in all cases in which no suppurative conditions of the adnexa are present, or other suppurative states

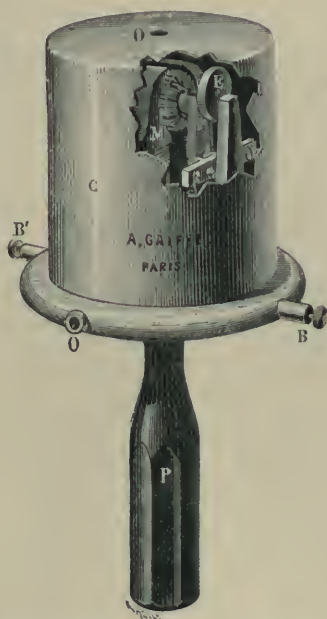
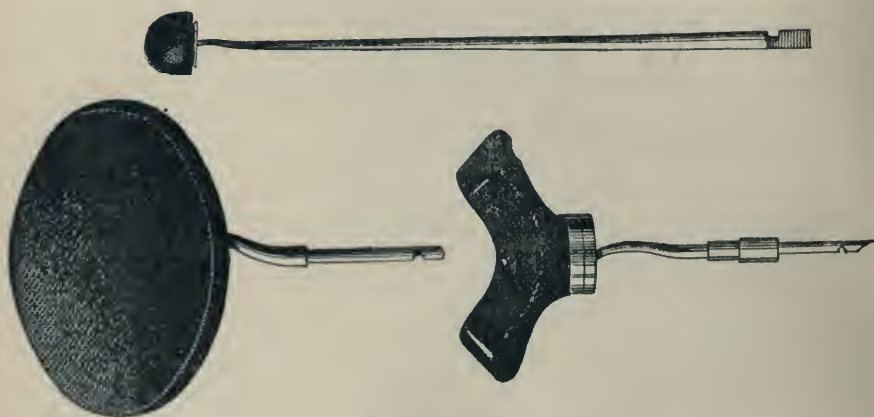


FIG. 2.—Electrical Hand Vibrator.

of the pelvis. Cases are reported in which fibromas have been successfully treated so far as the reduction of the size of the tumour and the arrest of hæmorrhage are concerned. Relief of congestion of the pelvic basin, and improvement of the intestinal circulation, are brought about.

Appliances.—There are various vibrators. A large one for interchangeable excitations, and a small hand machine (fig. 2) in which there is a dynamo mounted on a socket

and fixed to a handle. Various excitors may be attached to this hand apparatus. It is recharged with an ordinary communicator. The third is the machine shown in the text (fig. 1). It is composed of a small electrical motor which acts directly with an alternative current of 110 volts, giving a force of 15 kilogrammetres with a rapidity of 1,800 to 2,000 revolutions to the minute. This is placed on a small table alongside the bed and with it a short circuit appa-



A few *Concuteurs*.

atus, an interrupter and rheostat, enabling the operator to regulate the rapidity of the motor. The table can be so connected with the current from the main by a flexible cable as to enable it to be attached to the socket of any incandescent lamp. The rotatory movement is transmitted to a *concuteur*, which is directly attached to the cylinder of the motor. The vibratory motion is thus transmitted through the small pads affixed to the plaque, which is fixed to a stem that is connected with the flexible cable by a form of bayonet catch, and thus the plaque has conveyed to it the necessary vibratory movement. The plaque is now applied to the part it is desired to massage and the movement is communicated to it. The sitting lasts from ten to twenty

minutes. The morning hour after the breakfast meal is the preferable time and the patient's bowel and bladder should be emptied before the massage is commenced. After each sitting the patient should rest for a quarter of an hour on the back or in the prone position. There need be no interruption of the patient's occupation though it is not well that she should overdo exercise while the treatment is being



Application in the Declining Position and with a Finger making Pressure in the Vagina.

carried out. During the application the patient should lie on her back and the vibratory plate is simply applied to the abdominal wall on a level, say with the fibroma, if it should be used for a tumour, or one or two fingers of the left hand are introduced into the vagina and counter pressure is made from within in the direction of the part to which the application is being made. No pressure, however,

should be such as to prevent the vibrations from traversing the abdominal wall or the pelvic organs. The treatment may have to continue from some six weeks to three months. More patience is demanded for the completion of the cure than we are likely to secure generally from the majority of patients. The indications for the treatment are fibromas with hæmorrhage, inter-menstrual fluxes, erratic pelvic pains, general nerve states, chronic salpingo-oöphoritis of a non-suppurative character, general debility, when attendant upon some disorder of the female genital organs, and gastric intestinal atony.

BACKWARD DISPLACEMENTS OF THE UTERUS.¹

By ARTHUR E. GILES, M.D. B.Sc., F.R.C.S., M.R.C.P.

Surgeon to Out-patients, Chelsea Hospital for Women.

WHEN your secretary did me the honour to invite me to address you on this occasion, the first question that occurred to my mind was naturally, On what subject? And the first subject that suggested itself was the one I have chosen. This was probably due to the fact that it is a question which I have thought a good deal about, as is natural, in view of the prevalence of the condition and the numerous examples of it met with in the course of six years and a half of out-patient work. Moreover, the subject commended itself to my mind because I wished to come before you, not in didactic fashion, expounding obscure problems in pathology, but as a fellow-worker comparing notes on a subject with which we must all of necessity be more or less familiar. Of all the fields of specialism, Gynæcology is probably the one least restricted to the specialist and most practised by the all-round men, the general practitioners. And they, like the specialist, find that their advice is sought, in a large proportion of cases, on account of uterine displacements.

So much by way of preface. And now I want to clear the ground a little by specifying certain conditions with which I do *not* propose to deal. Firstly, we meet with cases in which a backward displacement of the uterus is a mere passing phase: examined one day, perhaps with a full

¹ A paper read before the South-Eastern Branch (West Surrey District) of the British Medical Association, October 26th, 1899.

bladder, the patient is found to have a retroverted uterus : examined the next, the uterus is found in a normal position. Obviously, no treatment is here required, and for this reason it has long been my practice to not introduce a pessary on the first occasion of finding a retroversion ; but to wait to see if the condition is a usual or merely a temporary one. Secondly, there are cases that one meets with in which a backward displacement is discovered accidentally, having given rise to no symptoms. In some of these the condition is congenital, and I believe that a fair proportion of retroversions found in unmarried women come under this category. Such cases can hardly be considered as pathological, and, in my opinion, are best left alone.

I have heard and seen it alleged that in some cases gynaecological troubles in women have first arisen after treatment ; and whether or not the charge has any foundation, our practice must not lay us open to it. I am quite certain that with most patients it is not advisable that their attention should be unnecessarily fixed on their pelvic, or, indeed, on any other organs.

My subject, then, is "Backward Displacement of the Uterus causing Symptoms," *i.e.*, Requiring Treatment ; and I shall consider it under four headings :—

(1) Simple retroversion of the uterus, with or without uterine congestion.

(2) Retroversion complicated by endometritis.

(3) Retroversion with fixation by adhesions.

(4) Retroversion of the gravid uterus.

In all these cases the retroversion may or may not be associated with flexion.

I.—UNCOMPLICATED RETROVERSION OF THE UTERUS.

Causes.—(a) A simple retroversion of the uterus may be brought about in some instances by a fall, a sudden strain, or over-exertion. I have met with several instances in which symptoms first appeared after the lifting of a heavy weight, and a few in which they dated from a long and tiring cycle ride.

(b) Some cases of congenital retroversion, which would otherwise have remained unnoticed, have made their presence felt owing to the accession of uterine congestion; these cases may suitably be included in the present group.

(c) The great majority of retroversions are due to the relaxation of the various ligamentary supports of the uterus, notably the round, broad, and utero-sacral ligaments, as the result of child-bearing. If there be any hindrance to the normal involution of the uterus during the puerperium, the organ remains heavy and bulky, a great strain is thrown on the weakened ligaments, which share in the condition of subinvolution, and displacement results. Very often this state of things is brought about by the patient leaving her bed too soon after confinement.

Symptoms.—A simple retroversion of the uterus may give rise to symptoms, some local and some reflex; and they may be caused in one of three ways, viz., by disturbances of circulation, by pressure, and by reflex nervous irritation. As a result of the malposition, the broad ligaments are often somewhat twisted, causing some pressure on the veins, whilst the thicker-walled arteries are unaffected. The consequence is uterine congestion, which affects not only the uterus, but also the appendages.

Hence we get a condition of over-sensitive ovaries, leading to chronic pain and tenderness, referred to the iliac regions. The left ovary is especially apt to be affected, being more or less compressed between the uterus and the rectum. Needless to add that the overloaded condition of the rectum, which is met with so commonly, aggravates the trouble. The uterine congestion itself leads to tenderness of the organ, and to increase in the menstrual flow, that is, to menorrhagia; and more or less dysmenorrhœa is almost always present. The pressure effects of retroversion are manifested in the disturbance of the functions of the bladder and rectum. The heavy fundus pressing on the latter may give rise to pain on defæcation; and the cervix may press on the base of the bladder, leading to frequency of micturi-

tion. These pressure symptoms are not, however, common, in the absence of uterine enlargement.

The reflex disturbances may affect almost any part of the body, but disorders of the stomach, bladder and nervous system are the most frequent. I recall a marked instance of an unmarried woman at the St. Marylebone Dispensary, who for two years was under the care of one of my medical colleagues for troublesome vomiting. Finding all the usual remedies ineffective, and being unable to find any organic signs of gastric disorder, he sent her to me to examine. She had a well-marked retroversion, and when this was reduced and the uterus kept in place with a Hodge pessary, the vomiting stopped at once. That the association was not merely an accidental one was shown by the fact that on several subsequent occasions the displacement returned, and vomiting at once set in. After about two years of treatment the uterus remained in good position, and she got married recently, having had no attacks of vomiting for two or three years.

Some months ago I saw, with Dr. Fido, of Brixton, a case which exemplified the association of retroversion with reflex bladder disturbance. The patient, a highly neurotic girl, suffered from frequency of micturition and enuresis. After drugs had been employed without success, I dilated the bladder hydrostatically under an anæsthetic. She was but little better after this, and on making a vaginal examination we found the uterus retroverted. This was replaced, and a small Hodge pessary introduced. She began to improve, and is now quite free from bladder trouble.

To illustrate the association of retroversion with nervous disturbances, I may mention a rather curious case which I saw about a year ago. A gentleman brought his wife to see me, saying that for some time she had suffered from depression, accompanied by occasional violent outbursts of temper. This was foreign to her previous nature, and he was afraid that some pelvic disorder might be responsible, as he had read of such things happening. I found that she had a

retroversion ; and as she was very sensitive, I replaced the uterus under gas and oxygen, which was given by Mr. Bellamy Gardner, and put in a Hodge pessary. For an hour after her recovery from the anæsthetic she was in an extraordinary hysterical condition. I explained to the husband that the chance of cure of her nervous troubles by the local treatment was, to say the least of it, problematical. However, I have been gratified to find that there has been a marked improvement ; I have seen her at intervals since, to attend to the instrument, and she has been almost free from the disturbance of her nerve-storms.

Retroversion is frequently associated with sterility, which appears to be due to the fact that the forward direction assumed by the cervix is unfavourable to the entrance of spermatozoa. A well-marked example came under my notice a year ago, when Dr. Dyer, of Johannesburg, sent me a patient who had been married for 18 months. She and her husband were very desirous of having a child. The uterus was replaced, and with the help of a Hodge pessary it kept in good position. At the end of May I had the pleasure of removing the pessary, as the patient was two months' pregnant, and she expects her confinement at the end of the year.

Treatment.—This consists simply in replacing the uterus and keeping it in position with a suitable Hodge pessary. In most cases, provided that the uterus can be got to keep its proper position continuously for six to twelve months, the pessary can be removed, and there is no further tendency to displacement.

II. RETROVERSION WITH ENDOMETRITIS.

We have to deal here with a condition which is by no means uncommon, and which gives rise to a great deal of chronic, though not always severe, suffering.

Causes.—The endometritis may either follow or precede the retroversion. In the former case, it is a sequel to the

condition which I have just been describing ; for the congestion which so often follows retroversion predisposes to chronic endometritis. This is especially the case when the displacement is associated with subinvolution ; for the patulous os and the often lacerated cervix favour infection. On the other hand, the endometritis may exist first ; and then the heavy bulky body of the uterus finds its weakened ligaments insufficient to support it, and once the fundus is pushed back a little more than usual, as by an over-full bladder, it readily falls right back into the hollow of the sacrum.

Complications.—As the uterine fundus turns backwards, it naturally tends to draw down with it the ovaries and Fallopian tubes. The appendages are probably already in a congested condition ; and their new position tends to increase this and to make them more sensitive. In this way we get the complete combination, so often found, of retroversion and endometritis, with prolapsed and tender ovaries.

Symptoms.—The congestive and pressure symptoms are the same in kind as those we have already discussed, but they are accentuated and more constant. Dysmenorrhœa and sterility are the rule. In addition, we have the symptoms due to the endometritis itself, backache, a feeling of pelvic fulness and bearing down, and leucorrhœa. If the ovaries are prolapsed, iliac pain and dyspareunia are nearly always present. The latter may attain an importance far greater than its medical significance. Thus, a short time ago a patient presented herself at the Chelsea Hospital for Women with exactly the pelvic conditions I have described. The dyspareunia had existed for over a year, and was so severe as to lead to the suspension of marital relations, and she came to the Hospital in great distress, saying that her husband, whose ideal of married life was evidently not of the loftiest type, had threatened to leave her unless she became more accommodating. She is already improved, and I hope that before long she will cease to have any cause for either pain or anxiety.

Treatment.—The first step here must be, not to replace the uterus, but to overcome the endometritis. Douches and tampons, combined with rest in bed for ten days or a fortnight will achieve the desired effect most quickly. Tampons should be saturated either with glycerine or with ichthyol and glycerine; one should be inserted every evening and removed the following morning. The douche should be given night and morning: at first it should be at a temperature of 110° to 112° F., later on it may be cooler. A full quart should be used each time, the patient lying on her back, and the nozzle being introduced well up to the vaginal fornix. Many cases of unsuccessful treatment are due to the haphazard way in which patients carry out instructions on these points; and it is a great advantage for the medical attendant to superintend the treatment personally if possible, or to entrust it to a reliable nurse, rather than depend on the patient herself. In the case of a patient whom I saw recently with Dr. Marcus Glanville, of Balham, and who was looked after by Dr. Jollye, of Brixton, the treatment was carried out minutely, and in two weeks the uterus was smaller and freely movable, and the tenderness of both uterus and ovaries had disappeared, so that we were able to proceed at once to the treatment of the retroversion and the prolapsed ovaries. This consists in replacing the uterus, with the sound or fingers; whilst the ovaries, if prolapsed, are pushed up as far as possible bimanually. With very tender ovaries this may be a difficult, and even impossible matter, except with the help of an anæsthetic: but when the tenderness has subsided, it is usually easy. The insertion of a suitable Hodge pessary completes the treatment, but these patients require careful watching for a time in order to be prepared for any return of the inflammatory condition or of the displacement.

These remarks apply to the comparatively mild forms of endometritis. When this is more pronounced and associated with considerable enlargement of the uterus and metrorrhagia, a more energetic treatment, such as curetting,

becomes necessary before one can hope that the uterus will keep in good position.

When curetting is indicated, it is often an advantage to first carry out the preliminary measures above described, in order to diminish the inflammatory process to some extent before proceeding to operation. When the case is further complicated by extensive laceration of the cervix or by a deficient perineum, the curetting should be combined with trachelorrhaphy or perinæorrhaphy, as the case may be.

III. RETROVERSION WITH ADHESIONS.

Causes.—This condition is due to pelvic inflammation complicating retroversion. In some cases the displacement is the primary condition, and the subsequent onset of salpingitis, leading to peritonitis and the exudation of plastic lymph, causes the uterus to be held down in its faulty position. In other cases salpingitis comes on when the uterus is in its normal position; the endometritis, which is nearly always the precursor of salpingitis, brings about hyperplasia of the uterus, which becomes enlarged and heavy. As we have seen, there is a great tendency for such a uterus to assume a backward position.

However the complication is brought about, the bands of plastic lymph which at first are soft and extensible, undergo later on organisation into fibrous tissue, forming firm bands which anchor the uterus to whatever organs are nearest. In this way adhesions are formed between the uterus on the one hand, and coils of intestine, ovaries, tubes, omentum, or the pelvic wall, on the other. Pelvic cellulitis also fixes the uterus during the period of exudation into the broad ligaments; but when the exudation has become more or less absorbed, the uterus may regain considerable mobility. When, however, the fixation is peritonic, it usually remains permanent.

Symptoms.—The symptoms found are those characteristic of pelvic inflammation, the uterine symptoms proper being

often overshadowed. Among the latter, when marked, we shall note dysmenorrhœa and menorrhagia.

On examination the uterine body is felt posteriorly in the pouch of Douglas: the tubes and ovaries are usually enlarged and matted together, forming firm swellings at the sides of the uterus; sometimes the lateral swelling is considerable, being formed by a pyosalpinx, a tubo-ovarian abscess, or a suppurating ovarian cyst. Such cases are not infrequently met with. On attempting to move the uterus it is found to be firmly held down.

Naturally in such cases the importance of the retroversion is quite secondary to that of the pelvic inflammation.

Diagnosis.—This usually causes little difficulty. But it is important to remember that a uterus may appear to be fixed when it is simply held down between the utero-sacral ligaments, as may happen when the body of the uterus is enlarged. In such cases the appendages are usually normal, and this will serve as a distinguishing feature; moreover, though the uterus may resist pressure applied digitally through the posterior fornix, it can generally be raised without much difficulty or the exercise of much force, by means of the sound introduced into the uterine cavity.

Treatment.—To introduce a pessary when the uterus is held down by adhesions is, of course, to add risk to inefficiency. "The one thing needful is to restore the mobility of the uterus. If time be no object, this may often be obtained by a somewhat prolonged course of rest in bed, combined with a depletory treatment of vaginal irrigation and tampons of glycerine, with or without ichthyol (five to ten per cent.). During this treatment an occasional attempt must be made to raise the uterus; if the sound be used for this purpose, it must be employed with great care. After some time it will often be found that the uterus can be moved a little, and by degrees the normal position can be restored. When this occurs a Hodge pessary is introduced, and kept in for some time."

When the adhesions have become so firm that they cannot be overcome by this means, the only alternative to a life of chronic invalidism is to open the abdomen, free the uterus from its adhesions, and suture it to the abdominal wall. I need hardly say that this serious measure must not be lightly undertaken ; the matter should be stated plainly to the patient, with the consequences of the one course and the risks of the other. My experience is that most patients readily accept the risk for the sake of the cure. I have adopted this procedure three times within the last fifteen months, and the result has been most satisfactory ; the patients have expressed themselves as enjoying better health than they had known for years, and they are all going about and performing their household duties without any inconvenience or drawback.

In another case I was not able to carry out the complete operation, for I found on opening the abdomen that the adhesions had caused extensive matting, involving especially the bowel and omentum, which were adherent to the back of the bladder. The separation of these adhesions was out of the question, as it would have been too risky an undertaking ; so, working from one side, I had to content myself with separating the uterine adhesions and lifting the fundus forward. The union of the intestine and bladder prevented ventrofixation. Nevertheless, the operation gave the patient marked relief, and when I last saw her a week or two ago, which was about twelve months after the operation, the uterus was keeping in good position, and she had lost her pain and was menstruating normally.

While on the subject of ventrofixation, I may remark that, even in the absence of adhesions, this operation, or the operation for shortening the round ligaments, is required in a small proportion of cases, when pessaries have failed, after a thorough trial, to keep the uterus in position, and when the patient's health and usefulness are seriously impaired by the continuance of the displacement.

IV. RETROVERSION WITH PREGNANCY.

Although frequently associated with sterility, an uncomplicated retroversion is not necessarily a bar to conception ; and there is no doubt that, in some cases of retroversion of the gravid uterus, the complication is due to the fact that the displaced uterus has become pregnant. In other cases the displacement occurs after the onset of gestation, and this is especially likely to be the case when pregnancies have succeeded each other rapidly, and the weakened ligaments have not had proper time to regain their normal tone.

The *symptoms* are classical. In the third or fourth month of pregnancy frequency of micturition sets in, and is soon followed by retention, with, perhaps, the incontinence of overflow. Symptoms of pressure on the rectum may be present, and the patient generally complains of pain referred to the lower part of the abdomen.

Diagnosis.—This is usually easy, but sometimes difficulties are met with. In a case which I have previously recorded the symptoms and physical signs were exactly simulated by what proved later on to be an extra-uterine gestation occupying the pouch of Douglas, the only difference being that in this case the mass that was thought to be the uterine fundus could not be raised out of the pelvis. The sound would have cleared up the diagnosis, but its use was, of course, not allowable under the circumstances. I recently saw a case illustrating the converse condition. Dr. Martin, of Clapham Junction, asked me to see a patient whom he believed to be suffering from retroversion of the gravid uterus ; the tenderness was so great that he could not reduce it. For a week or ten days there had been intense and constant pain in the left iliac region. By anæsthetising the patient the broad mass behind the cervix could be easily pushed up, but it then differentiated itself clearly into two portions, separated by a well-marked groove ; the median portion felt like the body of the uterus slightly enlarged, whilst the portion to the left gave the impression of a gravid

tube. This condition, taken in conjunction with the history of marked pain, led us to consider the possibility of an extra-uterine pregnancy. As, however, the patient was in a position to be attended to at once in case of emergency, we decided to watch her ; and on examining a fortnight later the two masses had become blended uniformly, the groove having disappeared. I believe that the peculiar condition found at the first examination was due to pressure against the sacrum.

Treatment.—The reposition of the uterus is not usually a difficult matter ; but if any difficulty is experienced, the use of the knee-elbow position or of an anæsthetic will generally overcome it. Sometimes the uterus is held firmly down by adhesions, or by the utero-sacral ligaments, which, while allowing the still small fundus to pass down easily between them, effectually imprison it when it has become enlarged. When all ordinary means of reposition have failed, two procedures are open to us. The first, and until recently the only, plan adopted was to induce abortion, and in some cases this will still be the best plan ; but if the general health of the patient be good, we may avoid the sacrifice of the foetus by opening the abdomen and freeing the uterus. This has been done now in several cases ; the risk to the patient is trifling, and the chance of abortion following is very small. I have not had occasion to adopt this measure, but in a suitable case, and especially if the parents are very anxious for a living child, it appears to me to be a sound and justifiable procedure.

The conclusions arrived at in this paper may be summed up in the following propositions :—

(1) Retroversion of the uterus requires no treatment when it causes no symptoms.

(2) A simple retroversion may cause symptoms by disturbances of circulation, by pressure, or reflexly.

(3) Pressure symptoms are uncommon in the absence of enlargement of the uterus.

(4) Reflex disturbances are most frequently gastric, vesical, or nervous.

(5) A simple retroversion can usually be cured by the temporary use of a pessary.

(6) Retroversion with endometritis is frequently complicated with prolapsed ovaries.

(7) In the treatment of this condition, the inflammatory condition must be cured before the introduction of a pessary.

(8) Pronounced endometritis requires curetting, with trachelorrhaphy or perinæorrhaphy in some cases, before the displacement can be dealt with.

(9) When retroversion is associated with fixation by adhesions, the first step must be to restore the mobility of the uterus.

(10) To introduce a pessary in a case of retroversion with fixation is to add risk to inefficiency.

(11) When milder measures fail the abdomen should be opened, the adhesions separated, and the uterus fixed in its proper position.

(12) In the absence of adhesions, hysteropexy is sometimes required to cure an intractable retroversion.

(13) Retroversion of the gravid uterus is usually reducible, with the help, in some cases, of an anæsthetic.

(14) In cases of irreducible retroversion, it is usually better to free the uterus by abdominal section than to terminate the pregnancy; but in some cases the induction of abortion will be necessary.

CLINICAL CASES.

By H. MACNAUGHTON-JONES, M.D., F.R.C.S.I. & E.

HÆMATO-SALPINX WITH PRIMARY TUBERCULOSIS OF
FALLOPIAN TUBE.

THE macroscopical and microscopical specimens shown have been prepared for me by Mr. Targett. The lady from whom the adnexa were removed first consulted me early in May of the present year. She then complained of pain in the right side, pain after passing water and attendant irritation of the bladder. Previous treatment had been fruitless. She was 29 years of age; in other respects she had very good health and was of a healthful appearance. The constant pain interfered with her happiness and kept her more or less an invalid. Her catamenia were regular. The uterus, on examination, was found to be small; there was a tumour of the right adnexa, the left were normal. At the time palliative treatment was resolved upon, and she returned home. In June, being no better, and the pain still continuing, as also the bladder symptoms, she came to London, and I performed salpingo-oöphorectomy. She made an excellent recovery, and the bladder symptoms disappeared.

Mr. Targett has furnished me with the following report.

Report on Tuberculous Fallopian Tube.

“The outer half of the tube is considerably enlarged, and its lumen uniformly dilated. The abdominal ostium is closed by adhesions, but traces of the fimbriæ can be discerned on the exterior. The surface of the tube is generally free from adhesions, though there are a few fibrous threads on the ovary. A section across the dilated portion of the tube shows a marked thickening and rugosity of the mucous coat, as well as a finely granular

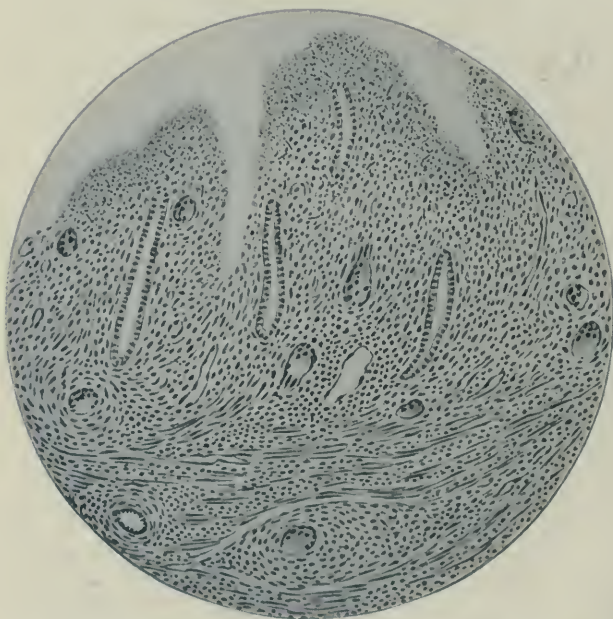
¹ Notes of specimens shown at the meeting of the Society on July 13th and October 12th, 1899.



Adnexa, showing section of the dilated tube and the contained blood coagulum ; also the adherent fimbria. Tuberculosis of the Fallopian Tube (seen from above and in front).



Same specimen, showing the ovary cut open and the recent corpus luteum. Tuberculosis of the Fallopian Tube (seen from behind).



Primary Tuberculosis of Fallopian Tube. $\times 100$. (See case, page 438.)

appearance of the mucous surface. The lumen is filled with blood and retained secretion. Microscopical examination reveals an abundance of grey tubercles in the substance of the mucous membrane, the giant cell systems being well developed. The muscular coat is not yet invaded, though the tuberculous formation has advanced in that direction. The epithelial covering of the thickened rugæ is for the most part preserved. The adjacent ovary presents a recent corpus luteum, and its substance is healthy. There is a striking absence of any peritoneal lesion, and for this reason it is probable that the tuberculosis of the Fallopian tube is primary."

HYSTERECTOMY IN A CASE OF EXTREME PROCIDENTIA WITH
PROLAPSE OF THE BLADDER OF FIFTEEN YEARS' DURA-
TION. MYOMATUS FUNDUS. HYSTERECTOMY WITH
ABLATION OF PORTION OF VAGINA ON DECEMBER 29TH,
1898. RECOVERY.

Patient, aged 39, was married sixteen years. She had six children. Uterus was first prolapsed fifteen years since, after the birth of her first child. It then yielded to treatment till after the birth of the fourth child. She has been gradually becoming worse since, especially for the last few years, and has worn a support and belt, which did not give relief. She has an occupation that demands continual standing. A large procidentia protruded between the thighs, and the uterus could be felt considerably enlarged. There was a deep and channelled erosion round the os uteri with a suppurative discharge from the endometrium. The sound in the cavity measured about four inches. It passed downwards from the urethra into the procident mass almost to a level with the external os. The catamenia were very frequent, dark in colour, and there was profuse bleeding.

I determined to remove the uterus and ablate a portion of the prolapsed vagina.

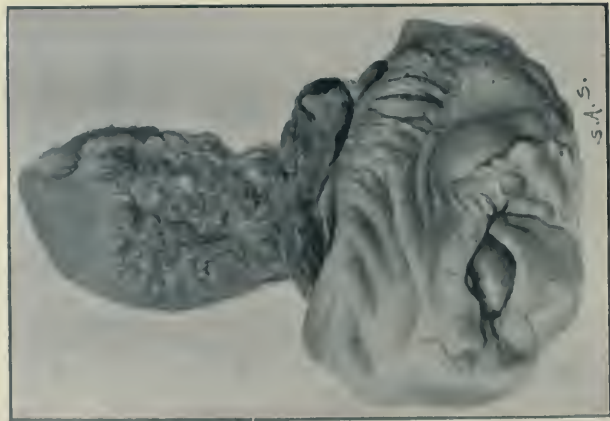
The difficulty of the operation consisted in the freeing of

the bladder from the uterus, to which it was adherent, as may be seen from the plate, for the greater part of its anterior surface. This was done by alternate working with the finger nail towards the uterus, curved blunt-pointed scissors, and small piece of sponge or gauze on a holder. There was an interstitial fibroid in the fundus of the uterus.

The rectum was partly adherent behind, as shown in the sectional drawing. A small flap of vagina was removed at either side. The peritoneum was laterally united with the vagina, a sterilised iodoform drain was passed into the peritoneal cavity, and the patient was treated as after an ordinary vaginal hysterectomy. With some variations and a comparatively high temperature range, which continued till the fourteenth day, and which I attributed to the separation of the ligatures and the discharge which ensued, the patient made an admirable recovery, being out of bed on the twenty-first day after the operation, and returning home on the twenty-sixth. She has been perfectly comfortable ever since, can walk long distances, and there has been no tendency to the least return of any prolapse of the vagina.

CASE OF EXTREME PROCIDENTIA UTERI OF TWENTY-FIVE YEARS' DURATION, WITH PROLAPSE OF BLADDER AND BOWEL, AND ADHESIONS BOTH TO THE SAC WALL AND THE UTERUS. HYSTERECTOMY. ABLATION OF PORTION OF VAGINA. RECOVERY.

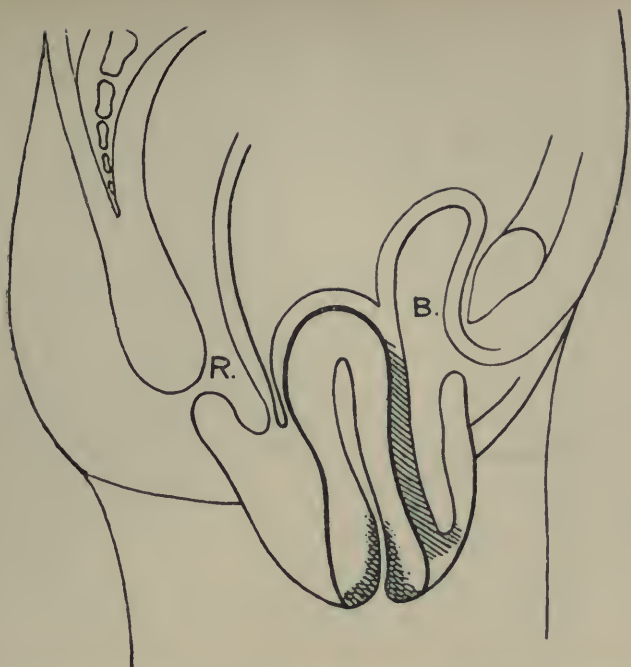
Mrs. S., aged 74, has suffered from prolapse for twenty-five years. Of late she has been entirely confined to the house and unable to walk. In addition there was inability to control the bowel, and she had difficulty also in emptying the bladder. The tumour bore all the evidences usually present in old prolapse. The uterus could be felt atrophied and fiddle-shaped in the centre of the mass. The bladder reached close to the lower margin of the cervix. The cervical canal was closed a short distance from the os uteri; the latter was eroded, there was purulent discharge and ulceration in the surrounding edges of the cervix. The



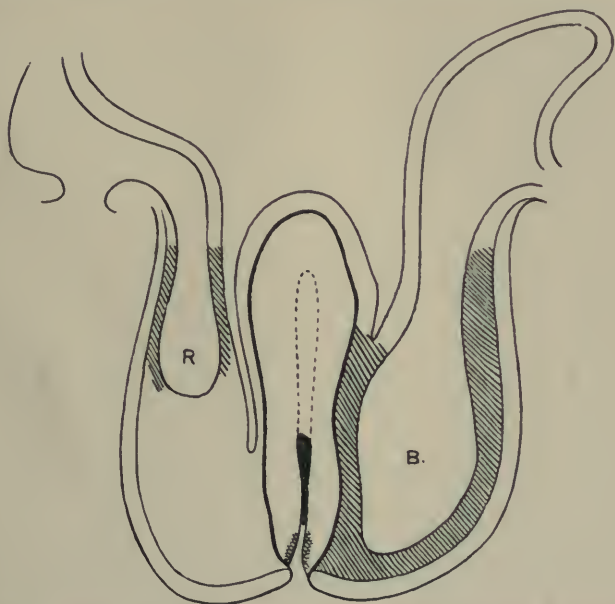
Atrophic senile uterus removed from procident sac (prolapse of 25 years' duration); return of the bladder and rectum into the pelvic cavity; patient aged 74 (Case 2).



Myomatous uterus removed by vaginal hysterectomy after 15 years prolapse, showing adhesions; return of the bladder into the pelvic cavity (Case 1).



Sectional Drawing (Case 1). Shaded portion shows the limits of adhesion.



Sectional Drawing (Case 2). Shaded portions show the extent of the adhesions.

operation performed was the same as in the last case, only much more difficult. The bladder wall was practically one with the wall of the sac in front, and had to be slowly dissected off in the manner mentioned before. The ureters were exposed in doing this. There was some trouble from some hæmorrhage from a wounded vessel in the wall of one of them, the left. The posterior surface of the bladder was adherent to the uterus, and this also had to be detached. The bladder was now free. The uterus was brought down and the broad ligaments were ligatured at each side by three ligatures which included all vessels. In doing this the rectum was found partly adherent to the upper and posterior part of the uterus, and this was freed. The uterus was now removed, the bladder being returned into the pelvis and sustained there by iodoform gauze. The rectum was pushed up by a finger introduced into the bowel from below, and dissected off from its attachment to the posterior wall of the sac. The rectum was then returned into the pelvis and supported. A semi-circular flap was cut anteriorly and posteriorly from the vagina. The peritoneal edges were brought together with those of the vagina, the vault was laterally closed, and the vagina was tamponed with iodoform gauze. The operation was performed on October 9th, and the patient has now (November 12th) returned home quite well. The temperature range continued almost normal after the operation, but, on finding a tendency for it to rise and the pulse to become somewhat hard, on the tenth day after operation I determined to remove all sutures, whereupon there was an escape of rather foetid pus. The vagina was subsequently drained with iodoform gauze, and frequent douchings with weak formalin solution were used. Further than some trouble with a costive bowel, which was easily overcome, there has been no other interference with recovery, and the resected vagina keeps perfectly in position.¹

¹ I have since operated upon a patient aged 42 for procidentia of over 13 years duration by ventrofixation (peritoneum and muscle). Here the uterus, save a slight erosion, was healthy, and neither the bladder nor rectum were involved.

REPORTS OF SOCIETIES.

INDICATIONS, TECHNIQUE AND RESULTS OF AN IMPROVED ALEXANDER OPERATION IN ASEPTIC ADHERENT RETROVERSIONS OF THE UTERUS, WHEN COMBINED WITH INGUINAL CÆLIOTOMY *viâ* THE DILATED INTERNAL INGUINAL RING. By Dr. A. GOLDSPOHN, Chicago.

IN this communication, the author stated that the round ligaments were the only available structures that grew with the pregnant uterus and became involuted with it after labour; and that shortening of them *viâ* the inguinal canals was the only operation whose published results, so far, proved it to stand the test of pregnancy and labour at term. But to this end, and to get women well, more was needed than simply the operation of Alexander. A finger must be introduced through the internal ring (simply stretched) to determine the degree and effect of the shortening of the ligament, to liberate the organs when adherent and to draw the ovary and tube into the same opening for resection frequently and for removal exceptionally. The author's method was as follows:—He cut only through skin and fat, split the important aponeurosis and worked through the muscles beneath it and the internal ring bluntly, in the act of freeing the ligament. He dilated the ring with pedicle or lithotomy forceps and closed the wound, after completing the intra-abdominal work, in four layers. In the second layer the round ligament was broadly anchored against Poupart's ligament posteriorly by cat-gut sutures, each of which took a roll of muscle tissue before piercing the ligament, to avoid strangulating it and

to guard against hernia *à la* Bassini. He had had no death from the operation in over 175 total cases. One partial hernia, due to an accident five weeks after operation, existed in 125 known cases. He reported the results in detail of 49 consecutive cases, after an average period of eighteen months' observation. Six cases passed through normal pregnancy and labour subsequently, and in each case the organs were found in normal position after an average period of three months. Operations upon the cervix, when indicated, and a curettement always preceded, and operations upon the perinæum and for hæmorrhoids followed the main operation, when needed, and in the same narcosis.

SUMMARY OF GYNÆCOLOGY, INCLUDING
OBSTETRICS.

CONSERVATIVE GYNÆCOLOGY. By JOSEPH TABER JOHNSON, M.D.
*Amer. Jour. of Obstet. and Diseases of Women and
Children*, July, 1899.

This is the President's address to the American Gynæcological Society at Philadelphia. Before the author refers to conservative gynæcology he draws a dismal picture of the results of hysterectomy for cancer of the uterus. He believes that in very nearly all cases the disease returns, but he hopes for better results if operators will remember the importance of removing the lymphatic glands. These are probably infected even when the uterus itself is movable. The operation to be done is early, radical, thorough and complete operation through the abdomen, if the pelvic lymphatic glands have become affected. In discussing the present position of conservative gynæcology, he deprecates the many acrimonious discussions that there have been, since it is evident to thinking men of experience that honest conservatism must have quite a range of application. "The most skilful and conscientious operator takes a just pride in his ability to save instead of destroy." Whenever possible, especially in young women, an ovary or a portion of ovarian substance should be left behind, objection was made that to do any conservative abdominal or vaginal operative work upon the appendages, the remaining and surrounding tissues would be left in a condition favourable to the occurrence of inflammation, to such a degree as to require other and still more difficult operations to complete the cure. Sufficient evidence is lacking to prove this practice to be unsound or unwise, and the conservatives adduce much evidence to support the wisdom and beneficence of their claims.

J. F. J.

ON ESTIMATING THE VALUE OF VARIOUS OPERATIONS,
ESPECIALLY OF THOSE FOR MYOMATA.

By OTTO VON HERFF. *Münch. m. Woch.*, 1899. No. 21.

Referring to the remark of Freund that statistics have been foully prostituted, v. Herff arrives from his researches at the

conclusion that, so long as there are not in our possession series of many thousand cases of certain operations for consideration, the inconstant causes of death should be carefully separated from the constant, and left out of the statistics of mortality if we wish to find the value of a certain method as apart from the prognosis of the operation.

The constant causes of death which must be blamed to the operation, would include all those following upon loss of blood, especially secondary hæmorrhages, those due to injury of independent or only slightly involved organs, to septic inflammations when these are clearly due to injury to the hollow viscera caused specially by the method, also death from shock when the method is unduly long, as when it lasts over two hours. v. Herff thinks that on these data many of the conflicting methods would come out equal, and that the present slight differences in the mortality are to be looked for in contingent circumstances.

FRED EDGE.

DISINFECTION OF THE SKIN AND HANDS WITH SOAP

SPIRIT. By PROFESSOR MIKULICZ.

(*Deutsch. med. Woch.*, 1899. No. 24.)

The methods of disinfection at present in use are so complicated that it is only in hospitals and clinics that they can be carried out. It is difficult in cottage hospitals, and almost impossible for the country surgeon to carry out these tedious procedures so as to arrive at anything approaching modern asepsis. Hence an improvement and a simplification of the disinfection of the hands and skin is necessary. Mikulicz has found in the official soap spirit a means of disinfection of the skin and hands without using water, which means is better than any at present in use. The method of its use is as follows:—If the hands are evidently dirty they are rubbed with gauze soaked in the soap spirit until clean. The nails are cleansed with a nail cleaner, and afterwards the hands are scrubbed for five minutes with a brush in soap spirit.

The advantages of disinfection with soap spirit are:—

(1) The disuse of excessive washing with water is beneficial for the patient especially when delicate. The patient is less exposed to chill and cold, and suffers no depression.

(2) The soap spirit is not poisonous and has no odour; it is a deodorizer, it does not irritate the skin even in the most delicate parts of the application, is limited to five minutes which is quite sufficient for disinfection.

(3) The hands remain free of germs longer because the soap spirit has a certain penetrating action into the deeper layers of the epidermis, and it remains here some time.

(4) This method of disinfection is less costly than the complicated methods or that by alcohol.

There is a disadvantage in that the hands are made smooth and slippery as after the use of lysol. This disadvantage is removed by operating in cotton gloves.

FRED. EDGE.

ALCOHOL AS A DISINFECTANT. By AHLFELD (Marburg).

Monatsschrift f. Geb. u. Gyn., Bd. x.

The author warmly advocates the use of alcohol as a disinfectant, and combats the various objections that have been made against his method of disinfecting the hands with hot water, soap, and alcohol, which, as his numerous experiments have satisfactorily proved, leaves them perfectly germ free. He employs the same method to sterilize the field of operation, and for a long time has used wadding soaked in alcohol to cover the stump of the umbilical cord, the child not being bathed till the remains of the cord has fallen off. For many years with this treatment he has not had a single case of infection or suppuration of the navel. A case of hernia of the cord, so large that the contents could not be reduced into the abdomen, was so successfully dressed with alcohol that the entire sac was skinned over.

In the Marburg Lying-in Institution a 50 per cent. solution has proved so successful in preventing gonorrhœal ophthalmia, that of 500 infants only one was seriously attacked, and then only slightly and very late. He ascribes to intra-uterine injections of 50 per cent. alcohol a favourable influence upon puerperal endometritis, and says that instruments may be kept germ-free in alcohol.

ON THE ALEXANDER-ADAMS OPERATION.

By FLAISCHLEN. *Samml. z. Abhandl. aus dem Gebiet der Frauenheilk. u. Geb.*, Bd. iii., Heft 2.

The author reports upon the sixteen cases he has operated on, all most successful. In describing the technique and advantages of the method he agrees with most authors, though he slits up the inguinal canal for the sake of isolating and shortening the round ligament more easily. Moreover, he declares that shortening only one of the ligaments is sufficient, that the uterus will afterwards take a good position. The advantage of inguinal over vaginal shortening of the round ligaments is not only in being done extra-peritoneally, but the uterus is better elevated by the Alexander-Adams than by the Wertheim-Bode operation. The question of the permanent results is, however, still an open one; the round ligaments are often very thin and wanting in muscular tissue, and incapable of keeping a thick and heavy uterus permanently in its normal place; and none of the reports, numerous as are the cases they contain, are supplemented by retrospective statistics of a sufficient date.

THE REMOTE RESULTS OF SHORTENING THE ROUND LIGAMENTS
AND HYSTEROPEXY BY VAGINAL SECTION.By HENRY T. BYFORD, *Amer. Jour. of Obst., &c.*, July, 1899.

The author describes the method of operation adopted in 31 cases. The results were not quite as satisfactory as he would have liked; the later cases, however, in which probably the technique was more skilfully carried out, gave promise of better results than the earlier ones. He combines shortening of the round ligaments with suturing of the fundus to the post-pubic peritoneum so that there shall be a greater extent of peritoneal adhesions, not only those of the round ligaments to the cornua of the uterus, but also of the fundus uteri to the peritoneum above the fundus of the bladder.

In 3 cases he has opened the peritoneal cavity after the operation, and has found the peritoneal adhesions between the fundus and the bladder separable by the finger (second operation within a few months of the first), and, therefore, not intimate enough to interfere with the development of pregnancy or the progress of labour. One patient, sixteen months after her operation became pregnant and was delivered at full time, quite normally, of a ten-pound baby. Before mentioning his technique we notice a rather curious fact, "in many of the cases the patients were virgins." He briefly describes his technique—T-shaped incision in anterior vaginal wall; separation of bladder from uterus; breaking up of adhesions and attention to the adnexa; drawing down of fundus of bladder and suturing of the fundus uteri above it with formalin catgut at two points about an inch apart; drawing down the round ligaments and uteri horns into the vagina, and suturing the former as taut as possible to the uterus just above the uterine insertion; after suturing the ligament the same catgut thread is thrown round the neck of the loop thus formed and securely tied. The peritoneal opening is closed with fine catgut. J. F. J.

SOME OBSERVATIONS ON THE EARLY USE OF PURGATIVES AFTER
ABDOMINAL SECTION.By OTTO G. RAMSAY, M.D, *Amer. Jour. of Obst., &c.*, July, 1899.

The author compares two sets of cases, one in which no attempt was made to move the bowels till the evening of the second day, and the other, a later series of cases, in which measures were begun early in the morning after the operation by administering at 6 a.m., two grains of calomel, and at 4 p.m. a soapsuds enema with one ounce of glycerine. Early the next morning the enema was repeated if necessary, and that was usually. After two or three enemata the flatus was passed freely except in a small minority of cases. The discomforts suffered by patients immediately after operation are diminished by early

purgation. The nausea or vomiting, distension and pain disappear after the first good movement of the bowels.

In cases where there has been much handling of intestine, and where large areas of adhesion have been freed, and where distension is the more likely to follow, Dr. Byford's method was adopted, and is warmly recommended by the author. He, however, did not administer a purgative immediately before operation as Dr. Byford recommended. After the operation the treatment was as follows: As soon as the patient had recovered from the anæsthetic, drachm doses of Epsom salts were given every hour and a small glycerine and warm water enema (two ounces of glycerine and four ounces of warm water) after the sixth dose of salts. The salts were continued after this every hour, with an enema every three hours, until the bowels were moved and flatus passed spontaneously. The salts should be given well diluted, and it will be found that they relieve the nausea and are eagerly taken by the patient.

J. F. J.

ABDOMINAL PANHYSTERECTOMY BEFORE TERM FOR FIBROMA
COMPLICATED WITH GESTATION. By A. MONPROFIT.

Revue de Gyn. et de Chir. Abdom., 1899, iii., p. 393.

Gestation complicated two of the many cases of fibroma for which Monprofit has operated.

Sterility is met with every day among the women with such tumours, and may be referred to an impermeable cervix a deviation of the uterine canal and tubes, some modification of the uterine mucosa, &c. Nevertheless, conception may occur suddenly (even) late in life without any apparent change in the fibroma, and sometimes close on the presumed appearance of the menopause. In some of these cases gestation takes an almost normal course, but in others the fibroma has already usurped dominion and the gestation is added as a new factor, known or unknown, and modifies the aspect presented by the fibromatous uterus.

The hæmorrhages disappear, the tumour grows irregularly, the abdominal tension increases so as to disturb the functions of respiration and digestion. This disturbance of digestion may take the form of uncontrollable vomiting, nothing is retained and the patient wastes rapidly. Interruption of the pregnancy is then the only remedy, but how can this be effected if the diagnosis be not established; the radical operation is a safer and better course. After narrating the history of two cases the author gives the following method of operating.

Hæmostasis is secured progressively, the arteries being grasped one after the other. The neck of the uterus is generally brought by Doyen's method through the posterior *cul-de-sac*, but

the *cul-de-sac* is opened more easily from above. The operation is completed by the suture of the vagina and the peritoneum without drainage save as an exception. Abdominal hysterectomy of the fibromatous uterus is not more difficult or serious when complicated by pregnancy than in other cases, and is the only intervention indicated when the patient's life seems in danger, and it appears that the pregnancy cannot without injury to the mother be conducted to term.

PANHYSTERECTOMY FOR UTERINE CANCER.

Reynier (*Soc. de Chir.*, July 12, 1899), dissented from an opinion expressed by Picqué, that in uterine cancer abdominal hysterectomy was much more dangerous than vaginal. Statistics, he pointed out, were quite inadequate, for they did not as a rule give definite information of the extent of the lesions, for which the operation was performed. The abdominal operation is often adopted in cases where the operator would decline to interfere by the vagina, so that the gravity of the intervention often depends on the gravity of the lesions treated; he had himself successfully removed cancers by the abdominal way which he could hardly have extirpated by the vagina. He recommends circular incision with the thermocautery round the collum affecting only the mucous membrane, then abdominal hysterectomy with ligatures on the utero-ovarian arteries, but having forceps on the uterine, on the latter it is not easy to place ligatures, and he has not yet sufficient faith in angiotripsy.

RICARD (*ibid.*, July 19, 1899), declared the operation not so dangerous as alleged; in ten he had had only one death, in which the left broad ligament was considerably involved, and a dilated ureter tore during the dissection and was implanted into the bladder. All the other cases, quite inoperable *per vaginam*, recovered. When the uterus is fixed by infiltration of the broad ligaments and cannot be lifted upwards, the abdominal operation may be more difficult. In uterine cancer it is not more dangerous than the vaginal one, and has the advantage of permitting the discovery and obliteration of the lymphatic glands.

SECOND has performed 95 vaginal hysterectomies with a mortality of 13-14 per cent. The mortality varies with the extension of the cancer, almost vanishing in limited cancer of the collum; when the uterus is quite mobile it becomes considerable in cervical cancer involving the vagina and broad ligaments. In cancer of the corpus, when the uterus is small and does not need morcellation, the operative result is perfect; but if the uterus be large and must be removed piecemeal, the operation becomes very serious, and is still more so if the broad ligaments are involved. Among 40 recurrences within

his knowledge, 30 occurred within one year, 7 more during the second, 1 in the third, 1 in the fourth, and 1 not till the end of the seventh year. His survivals have been 1 of ten years, 1 of nine years, 2 of four years, 4 of two-and-a-half years, and 2 of two years. Histological examination was made in all these cases, most of them by M. Cornil. He had only done 6 abdominal hysterectomies for uterine cancer. The advocates of this abdominal operation for uterine cancer consider it as less serious than vaginal hysterectomy, as the only rational operation, giving a clear view and permitting the removal of all glands, and consequently a more favourable prognosis as to ultimate results. As regards gravity, no doubt the technic is now so perfected that abdominal hysterectomy is as benign as vaginal; but it is equally certain that when the lesions are very extensive, so much so, for instance, as to require the ligature of the common iliac, the operation cannot be considered as less grave than vaginal hysterectomy. That, of course, would not matter if one were certain to remove all tissue capable of being involved by the neoplasm; but such an expectation is quite unrealisable, and therefore the gravity of the intervention when the cancer is too far advanced is not balanced by the prospect of cure. Abdominal hysterectomy for cancer limited to the uterus alone, whether corpus or collum, may be called a benign operation, but when the disease has extended beyond the uterus this method is murderous and no better than vaginal hysterectomy. Nevertheless, that for a cancer of the corpus, somewhat voluminous and dangerous to attack *per vaginam*, and for forms complicated by softening of the collum such as to afford no hold for retracting forceps, abdominal hysterectomy is evidently less formidable than vaginal. When the lesions extend beyond the uterus Segond does not operate at all, considering palliative measures alone permissible. The results of such measures in prolonging life are altogether extraordinary. In fact, for cancer of the uterus limited to the corpus the abdominal operation is indicated if the uterus be so large that it would have to be removed piecemeal by the vagina or if the lesion be complicated by softening of the collum, otherwise if the uterus be mobile either the abdominal or vaginal operation may be chosen. When the cancer is limited to the collum the vaginal operation is always applicable, for it enables one to avoid contamination of the peritoneum, and there is no evidence at all to show that the later results obtained by it are at all inferior to those obtained by abdominal hysterectomy.

TERRIER concurred as to the impossibility of clearing out the pelvis; he thought recurrence inevitable; there was much difficulty in deciding whether intervention was contra-indicated.

FOUR CASES OF ABDOMINAL PAN-HYSTERECTOMY FOR FIBROID TUMOURS OF THE UTERUS.

By ARTHUR H. N. LEWERS. *Lancet*, July 8, 1899.

This is a report of four cases of complete hysterectomy, the author having previously performed hysterectomy with the intra-peritoneal stump. He thinks the operation a good one because it entirely does away with the stump which has often in the past been a source of trouble, whether fixed outside by the clamp or treated by the intra-peritoneal method, and because it provides free drainage below. All the patients made good recoveries. One ovary is, if possible, left alone. The author prefers hysterectomy to removal of the appendages, owing to the uncertainty of a permanent cure by the latter operation.

J. F. J.

VAGINAL EXTIRPATION OF A UTERUS RUPTURED IN THE SIXTH MONTH FROM AN EXTREMELY CONTRACTED OSTEOMALACIC PELVIS. By HUBL (Vienna).

Wiener kl. Wochenschrift, 1899, No. 34.

The woman was a X-para of 32 years, with an extremely contracted pelvis (distance between the ischiatic protuberances, 6 cm., conj. vera, circa 7 cm.) Interruption of gestation was indicated by the general condition, and colpeuryntes was introduced into the uterus, but after some time a gap was found in the contraction ring perforating the uterus, and the child was extracted piecemeal. There was profuse bleeding and the adherent placenta could only be extracted slowly and partially, and total extirpation was indicated, the uterus could not be removed till it had been split longitudinally. The patient though very exhausted made a rapid recovery.

TEN CASES OF VAGINAL HYSTERECTOMY.

By ARNOLD W. W. LEA. *Lancet*, August 12.

These ten hysterectomies were done for the following conditions: in five cases for cancer of the uterus (cervix four, body one); in three cases for multiple fibroids, and in two cases for chronic inflammatory affections, combined in the latter with removal of the appendages. One case died from intestinal obstruction nine days after the operation. The cancer cases are interesting, one of them in particular (No. 4) showing how relief may be afforded even in fairly advanced cases. In all cases the ligature method of removal was adopted. The ends of the ligatures were left long and the stump of the broad ligament brought well down into the vagina.

J. F. J.

ANGIOTRIPSY.

By L. THUMIN (Berlin). *Centralblatt f. Gyn.*, 1899, No. 26.

Thumin has practised angiotripsy in ninety-nine cases without a single instance of secondary hæmorrhage or accidental injury. He has latterly employed it not merely in radical vaginal operations, but also in one vaginal and numerous abdominal ovariectomies, and in abdominal extirpation of myoma.

TH. LANDAU (Berlin) *ibid.*, discusses the contra-indications to the use of the vaso-tribe, which he sums up in the statement that the instrument is not intended to be used as an *ecraseur*, and is therefore not adapted to cases complicated by severe inflammatory processes, nor to many cancerous cases; arterio-sclerotic vessels and isolated arteries are outside its field. It has proved efficient in all cases of pedicles with uniform resistance.

E. M. SIMONS (*ibid.*, No. 28), says it is difficult, when the tissue which has been compressed slips out of sight on removal of the clamp, to be sure that the bleeding has been completely arrested.

RATCHINSKY (*Revue de Gyn. et de Chir. Abdom.*, 1899, iii., p. 401), on the basis of a series of experiments upon animals undertaken on the advice, and to some extent, with the collaboration of Professor Otto, concludes:

The advantages of this method as a means of hæmostasis in general, and particularly in vaginal hysterectomy, consist in the fact that no foreign body is left behind to be a possible source of infection. Moreover, the stump left by the angiotribe, not thicker than a sheet of cardboard, is much less voluminous than any stump after ligature *en masse*.

The objections to angiotripsy in vaginal hysterectomy are:

(1) The stump of the broad ligament projects too high in the cavity of the small pelvis, escaping from the operator's sight, so that a possible secondary hæmorrhage can only be met by laparotomy.

(2) The instrument cannot be conveniently applied to the broad ligament, except when the uterus is pulled down. The application of the angiotribe *in situ* is most difficult and complicated; its use, moreover, requires more force than every operator can give.

The author, on the basis of operations he has seen Tuffier perform, and of microscopical examination of specimens, declares that hæmostasis by Tuffier's instrument is possible, but transitory, and particularly in vaginal hysterectomy, hæmorrhage after angiotripsy, is not uncommon, and laparotomy is often necessary.

ZWEIFEL, Leipsic (*Centralbl. f. Gyn.*, 1899, No. 37). Zweifel, who entirely approves of the principle of angiotripsy, and of the

procedure lately developed by Doyen and Thumin—principle of arresting hæmorrhage by crushing the vessels first enunciated by Koeberle, in order to do away with the injurious effects of the instruments hitherto employed—has designed a lever forceps with bent arms here (*l.c.*) described and depicted. He has also had ordinary artery forceps made with knees, which make nearly all ligatures on smaller vessels superfluous.

KOSSMANN (*ibid.*) has also constructed a new instrument for hæmostasis, which he calls an ANGIOTHRYPTOR, and describes with illustrations, which differs from earlier models in that the arms do not cross but are brought together like those of a glove stretcher. He has proved its efficiency on animals and on human beings, and the price should be lower than that of the earlier models.

VAN ROSSEM describes also with a drawing a third model made by Hæfftke, of Leyden, on the principle of the old push forceps, and with which he has experimented on rabbits in which he isolated and clamped large arteries, *e.g.*, the femoral and aorta. Permanent hæmostasis was not secured in all cases. The instrument must remain *in situ* three minutes or longer to be safe from secondary hæmorrhage, and the instrument has on this account not been employed in human beings in Leyden. Nevertheless, van Rossem hopes by further improvements hæmostasis without ligature may be secured to the advantage of gynæcological operative *technique*.

VAGINAL CÆLIOTOMY, WITH REPORT OF ELEVEN CASES.

By A. LAPHORN SMITH. *Amer. Jour. of Obst., &c.*, July, 1899.

After reporting fully the 11 cases the author arrives at the following definite conclusions as to the relative merits of, and indications for, vaginal cæliotomy.

(1) That it is indicated in retroversion with fixation, in minor diseases of the ovaries and tubes, and in small fibroid tumours of the uterus. This method of freeing the retroverted adherent uterus is more difficult than the abdominal (the author adopted the anterior colpotomy route), and vaginal fixation is not so reliable for cure as ventrofixation.

(2) If the uterus be movable and there are no adhesions to be broken up, it is not justifiable to open the peritoneal cavity. In such cases Alexander's operation is easy, quick, safe, and more reliable. The author has had no failures in his last 100 cases.

(3) For the removal of pus tubes the operation by the vagina is more difficult than by the abdomen, in all cases excepting those in which the uterus is removed at the same time. When the uterus is split in half, and each half is removed with its corresponding ovary and tube, and when clamps are used, the

vaginal operation is easier than the abdominal in which ligatures are employed. The vaginal operation is a little safer on account of the drainage which it affords, but, on the other hand, it offers more risk of injuring the ureter. The author, however, is opposed to the removal of the uterus even when both ovaries and tubes have been removed.

(4) For the removal of chronically inflamed ovaries and tubes vaginal cœliotomy has the following decided advantages: (a) It is less dangerous because the intestines are not exposed to the air, or to bruising by the hands, or infection through diseased tissues passing over them so much as when the latter are removed by the abdomen; (b) That it is less painful, the incision in the vagina causing almost no pain, while the abdominal incision and stitching are exceedingly painful. In vaginal cœliotomy morphine is rarely required. (c) There is no scar in the abdominal wall and no danger of hernia.

(5) Much good conservative work on the ovaries and tubes, and even on the uterus, can be performed by vaginal cœliotomy with almost no risk or pain to the patient. Cysts can be excised or burnt out; one half of one ovary can be amputated and the remaining flaps neatly brought together; the closed tubes can be opened and salpingostomy performed; small fibroids can be enucleated.

(6) Tubal pregnancy before rupture, and not later than the sixth or eighth week, can be readily removed by vaginal cœliotomy. But it is contra-indicated when the pregnancy has advanced to twelve weeks or has ruptured into the abdomen.

(7) In general terms, all cases in which the trouble is small in size and located low down, can, and should be operated upon by vaginal cœliotomy, while everything large and located high up should be reserved for abdominal section.

J. F. J.

OPERATIONS ON THE COLLUM UTERI.

Paris Gynæcological and Pædiatric Society, May 5, 1899.

An important discussion took place on the occasion of Pinard's showing a specimen coming from a woman in whom an operation (admittedly deficient) on the collum and upper part of the vagina had led to rupture of the uterus during labour.

Amputation of the neck has lately been much decried as being the cause of subsequent dystocia—and with some cause—but the fault is not in the operation, but in the operators.

Pozzi, *Rev. de Gyn. et de Chir. abd.*, 1899, p. 387, writes:—"The discussion provoked by Pinard has demonstrated the dangers of certain resections of the collum. It is interesting to enquire how or why dystocia should so often result from such intervention, but at the same time it is undesirable to condemn

a valuable operation because it has been abused or improperly employed.

"Under the description of amputation of the collum various operations may be included :—

"*Trachelorrhaphy* or *Emmett's operation* ; which is a lateral resection with suture of an old ulcerated or sclerosed laceration.

"*Schroeder's operation* ; an amputation with a single flap, very difficult of perfect execution.

"*Biconical amputation* with two flaps, the operation of Simon Markwald, and the one performed by nearly all who believe they are doing Schroeder's operation.

"*Evidement commissural*¹ (simple, or combined with the biconical amputation) an operation proposed by the speaker in 1893 to improve the old methods of stomatoplasty.

"BOUILLY has very properly drawn attention to the fact that the neck of the uterus operated on is always more or less diseased, and even if not interfered with, would offer a certain rigidity due to its infiltration, sclerotic induration, or congenital malformation (in the case of conical or stenosed cervix). It is therefore improper to consider the single factor of the operation only, in appreciating the phenomena observed at the time of subsequent childbirth ; this does not prove that the operation was harmful ; on the contrary, the operation has made conception possible, but must not arbitrarily be made responsible for the difficult labour. The disease which the operation had not completely cured plays its part.

"Bouilly quotes, as an example, one of the cases reported by Pinard :—A lady of 40 had been sixteen years married without becoming pregnant ; she conceived two years after he performed a stomatoplasty, and was safely delivered ; but the period of dilatation took more than eighteen hours. The woman's age and the rigidity of the tissues in a tardipara must not be forgotten.

"The dangers of certain amputations of the neck are undoubted, but are entirely due to defective *technique* or incomplete antisepsis—either of which tends to the formation of an insufficient orifice with or without nodular tissue, and such an orifice forms an obstacle to dilatation. The conditions indispensable for the perfect plastic success of any amputation are (1) perfect approximation of the flaps, which should not be cut squarely but bevelled. (2) The sutures should bring the whole wounded surface into apposition, (3) should be at once impermeable and secure (silkworm gut or silver wire), (4) should be duly removed, and (5) there should be sufficient aperture in the new orifice.

* S. Pozzi. *Traité de Gynécologie*, 3rd ed., 1897, p. 616.

"In an immense number of women the conditions have been much aggravated by amputation of the collum and curetting, operations always proposed and received as innocent procedures. It has often been necessary for me to restore the permeability of the collum by a supplementary stomatoplasty, and in one case, after a Schröder's operation, to perform vaginal hysterectomy and ablation of the adnexa for hæmato-metra and hæmato-salpinx. It is no exaggeration to say that more skill and more persistent asepsis is required for an amputation of the neck than for ordinary ovariectomy, and yet many men believe themselves competent to do the former who would not dare to attempt the latter.

"After insisting on the technical difficulties of resection of the collum in general, he adds some details about Schröder's operation, the most difficult of all. It consists in amputation by two unequal flaps, a small internal and a larger external. Pozzi, though he has not quite abandoned this operation, no longer recommends it to his pupils."

He concludes:—"Amputation of the collum is not to be abandoned, but should only be done upon definite indications, and with adequate technical skill; thus alone will the permeability of the canal and the elasticity of the collum be preserved, and the patient cured without the slightest danger of dystocia. The cry of alarm raised by Professor Pinard is a salutary warning, but should not unduly discredit an extremely valuable therapeutic resource."

VARNIER also relates a case in support of Bouilly's argument, that in dystocia after amputation of the neck one should take into account the lesions for which the operation was done. *Quarti para*: (1) large live child by forceps; (2 and 3) spontaneously; (4) breech case spontaneously, child dead. In her 5th labour Varnier extracted by the foot a live child of 4,700 grammes; secundines normal. Intra-uterine injections, copious and persistent hæmorrhage, retraction of the uterus. With the speculum he found a laceration of the cervix extending beyond the vaginal insertion. After packing with three bundles of iodoform gauze, the bleeding seemed arrested, the uterus remained hard and low. The vulvar cloths were not stained, and save for a rapid weak pulse, there were no symptoms of dangerous hæmorrhage. But the woman gradually grew worse and died three-and-a-half hours after delivery. The gauze tampon soaked with blood weighed 500 grammes.

Autopsy.—No blood in peritoneum, no torsion of uterus—fundus 14 cm. above symphysis—a slight ecchymosis in the left broad ligament, peritoneum intact, even in *culs-de-sac*. The uterus removed with bladder and vagina, and divided in anterior median line, disclosed an oblique laceration from top to bottom

and from within outwards, 6 cm. long and 7 mm., corresponding to the ecchymosis in the broad ligament. In greatest breadth this laceration proved to correspond with an old laceration of the neck produced during a previous labour, which had extended beyond the internal orifice and implicated the next part of the lower segment of the womb.

The dystocia and the fatal result in this case were due not to surgical intervention, but to lesions which would have indicated such.

THE OPERATION FOR COMPLETE TEAR OF THE PERINEUM.

By HOWARD A. KELLY, *Amer. Jour. of Obs. &c.*, August, 1899.

In a paper previously published in the "Johns Hopkins Bulletin" for this year, Dr. Kelly laid particular emphasis on the fact that the best method of treatment of a torn sphincter is by liberating it from the surrounding tissue and then uniting the freed ends by buried catgut sutures. This method gives better results than that depending on the approximation of broad surfaces. This plan, however, of buried catgut sutures increases the risk of infection and, therefore, of failure in union. In the paper under notice two important points are brought forward which relieve the operation entirely of the risks of infection. The operation is performed as follows:—An incision is carried across the septum at least a centimetre above the margin between the junction of the rectal and vaginal mucosa. This incision extends across the whole septum and above and beyond the sphincter ends. Taking this as a base line, the operation on the vulvar and vaginal portion of the rent is then made in the usual manner. The operator now turns his attention to the rectal side of the tear. He inserts his left index finger into the bowel and draws the septum a little forward, and then carefully dissects the strip of undenuded tissue, left below the original incision, so as to free it and turn it down like an apron. A careful dissection will expose the internal sphincter muscle and avoid buttonholing the bowel. At the sides of this flap the ends of the sphincter muscle are caught up. The purpose of this flap is to turn down an apron or fold of tissue, which, when the sutures are all in place, projects out of the anal orifice and points in a direction away from the impact of the fæcal masses. By making this apron a wound on the rectal surface is avoided. To avoid a second complication, the presence of a dead space in the centre of the septum, the following plan of suturing is recommended: About three or four catgut sutures are applied in the form of the figure-of-eight, beginning above and introducing each suture so as to grasp the fibres of the internal sphincter muscle well to one side of the median line sutures, then carried to the opposite side, then

passed through the tissues in the septum, well above the internal sphincter; it then returns to the first side and includes the corresponding area of tissue, and is finally brought out through the internal sphincter at a point corresponding to the point of entrance. This entire suture is buried in the septum and no part of it appears on any part of the surface. By the use of three or four sutures of this kind broad plain surfaces are brought together in the middle of the septum, and the space is obliterated in which accumulations are so apt to form. The next step is to pass the sutures on the vaginal surface, approximating the triangles there. The next sutures are applied on the perineal surface. The final step is the union of the edges of the apron, which lie now more or less crumpled together and projecting at the anus; by leaving these sutures long and making slight traction this entire line can be drawn well outside and fixed on the buttocks by a strip of adhesive plaster.

J. F. J.

THE MISCHANCES OF OPERATIVE TREATMENT OF ABDOMINAL
TUBERCULOSIS. By WUNDERLICH.
Archiv. f. Gyn., 1899, Bd. lix., H. 1.

The results of the operative treatment of abdominal tuberculosis in Professor Doederlein's Clinic at Tübingen do not correspond with those of other places. In 7 out of 10 cases no cure was obtained and the operation was directly injurious. In the other 3 cases a favourable local and general condition resulted. The author has searched for similar unfavourable reports to ascertain the frequency of failures in cure—and of injurious consequences, such as septic peritonitis, intestinal fistulæ, &c., directly due to the operation.

Three forms of tuberculous peritonitis are to be distinguished:—(1) the ascitic, (2) the fibro-adhesive, and (3) the suppurative. In the first the ascites recurred in 23·6 per cent. of all cases, and intestinal fistulæ were relatively common. In 344 cases 16 died immediately or within a few days of the operation. In opening the abdomen in the dry adhesive form the greatest care is necessary, two instances of injury to the intestine are given, and 15 of 136 patients died within a few days of the operation. In the suppurative form of tubercular peritonitis the danger of operation is evident from a consideration of the pathological condition of the parts. Of 20 patients 9 died immediately or within a short time, three years at least, of the laparotomy.

The author concludes that cure is most frequent in the ascitic form (about 23·3 per cent.), next in the adhesive form (about 9·8 per cent.). The results are remarkably discouraging, and the curative influence of laparotomy has been greatly

exaggerated. The operation may have a decidedly good effect, but it is not right to say that it is the one safe and sure means of cure. Spontaneous recovery undoubtedly occurs.

PRIMARY TUBERCULOSIS OF THE VULVA IN AN ADULT, AND ITS RELATION TO ULCUS RODENS VULVÆ (VEIT).

By A. RIECK (Greifswald).

Monatsschrift f. Geb. u. Gyn., Bd. ix., Heft 1.

In a woman without hereditary taint, whose husband had died of phthisis, the author observed a slowly advancing ulcer of the vulva with elephantiasitic changes of one of the labia minora. It was doubtful whether bacilli found in the pus from the ulcerated surface were tubercle or smegma bacilli. After prolonged unsuccessful treatment, the ulcerated surface was removed by operation, and after prolonged search undoubted evidence of tuberculosis, tubercles, giant cells, caseation and tubercle bacilli, were found in a circumscribed spot which was evidently in a condition of advancing ulceration. Tuberculous changes in the vulva seem to have been seldom reported, and lupus vulvæ never yet with certainty. The author concludes that the cases of ulceration with elephantiasitic appearances of the vulva, by Veit described as *ulcus rodens*, are to be referred to tuberculosis.

METRITIS OF THE CERVIX AND CANCER OF THE PORTIO VAGINALIS CERVICIS.

By AMICO ROSCAS. *Archivio de Ostet. e Ginec.*, August, 1899.

The connection of inflammation of the cervix with the origin of cervical cancer has been always the subject of much controversy and investigation, and Cornil in France, and Rüge and Veit in Germany, the pioneers in this work, have shown that every case of disease of the cervix should be examined microscopically, so that any malignant growth may be detected at a stage when its radical removal is possible.

The author has so examined several cases of chronic cervicitis upon which Professor Cosentino afterwards operated. He found that intermediate histological conditions existed between the inflammatory and the neoplastic condition, and concludes that:—(1) In the doubtful changes of the cervix, so frequently met with in practice, no exact and precise diagnostic criterion is possible unless an accurate microscopical examination be made of the tissues removed from the suspected locality; (2) microscopical examination is of material assistance in establishing a differential diagnosis between cancrroid of the cervix and other forms of carcinoma; (3) In incipient cancrroid of the portio supra-vaginal amputation of the cervix is sufficient, and is especially indicated in women who have not been pregnant for

many years and who are approaching the menopause. With this treatment there is no likelihood of return of the new growth in such cases, and this procedure is more likely to be crowned with success than total hysterectomy. When cancerous infiltration has already invaded the cervical mucosa, and still more when the malignant process has passed beyond the cervical boundaries, hysterectomy has less probability of success than amputation of the cervix.

FRED EDGE.

BENIGN GLANDULAR UTERO-VAGINAL HYPERTROPHY SIMULATING
A MALIGNANT TUMOUR.

By DR. SINÉTY. *Annal. de Gynécôl.* xxvi., p. 148, Feb., 1899.

In a patient, aged 32, who had had two children, and who was suffering from a severe discharge, Sinéty found the uterus somewhat large, mobile, and with a softish cervix. To the right, 4 cm. from the os uteri, in the vaginal vault, was a roundish, warty swelling as big as a hazel-nut. It was movable over the subjacent tissues and lay against the cervix. The speculum disclosed that the tumour consisted of transparent, greyish-white cysts. It really consisted of a collection of Naboth's follicles in a situation where, as a rule, no glands are found.

FRED EDGE.

ON CANCER OF THE FEMALE URETHRA.

By EHRENDÖRFER INNSBRUCK. *Archiv. f. Gyn.*, Bd. lviii., S. 463.

The author describes as vulvo-urethral carcinoma such primary forms as have their origin in the external ring of the urethral opening, and as cancer of the urethral mucosa new growths of the mucous membrane of the canal itself. But both forms must be considered as primary cancer of the female urethra. Carcinoma of the mucous membrane proper is much more uncommon than vulvo-urethral cancer. It is often impossible to distinguish clinically between the two forms except in the early stages, since cancers of the external meatus rapidly develop round the mucous membrane and soon involve it; the vulvo-urethral carcinoma, however, shows no such general superficial extension in the vestibulum as those vulvar carcinoma which, arising from other parts of the vestibulum, afterwards attack the urethra. Nothing is yet accurately known of the share of the lymphatic glands in the disease.

UNUSUAL CASES OF ABDOMINAL HYDATID.

By H. CRITCHLEY HINDER, M.B., CH. M. SYD., Sydney.

Australian Med. Gaz., 1899, April 20.

Hydatid disease is extremely common, but now and again cases crop up which have some points of special interest attached to them, and make their record of some value to all of us.

CASE I. was a woman of 35, who was three and a-half months pregnant, and had pains and increasing discomfort in the pelvis. On examination two rounded, hard tumours could be felt in the pelvis, one closely attached to the cervix, the other higher up and somewhat more movable. It was obvious that these would seriously obstruct labour, and considering the size of the uterus would be so held down as to preclude the possibility of removal unless the uterus was considerably reduced in size. After consultation with Doctors Traill and Blaxland it was decided to do so. The uterus was emptied by injections of glycerine through a catheter introduced well up into the uterine cavity. Three weeks afterwards the abdomen was opened and two hydatid cysts were removed by shelling them out, one from the broad ligament, the other from its broad basal attachment to the cervix on the one hand, and the rectum on the other. Both cysts were very tense, and full of daughter cysts. No drain was used, and an aseptic recovery eventuated. These cysts certainly bore a marked resemblance to fibroid tumours, but gave rise to no symptoms.

CASE II. was a woman in whose abdomen could be felt at least four or five hydatid cysts, and the interest shown in the curious condition of her abdomen by a number of observers probably accounted for the ruptured cyst found at the time of operation.

A vertical incision ten inches long was made through the right rectus. Some clear fluid escaped, and on drawing aside the matted omentum an endocyst was found hanging out of its ectocyst. This was completely removed and the ectocyst left; three other cysts were shelled out of their extensive adhesions to omentum and intestine without excessive hæmorrhage. Another one was attached to the brim of the pelvis, and a sixth, which fitted very accurately into the bottom of the pelvis, was lifted out intact. The removal of these left the patient's abdomen rather in an entangled mass, so that a seventh cyst which was retroperitoneal and resting on the spleen and against the abdominal wall was left for another occasion, as it could more easily be got at from without.

The abdominal contents were dried, and the wound stitched up without drain. There was some tenderness with rise of temperature to 101° , and pain from the fifth to the ninth day over the site of the ectocyst which had been left behind, and was due, I think, to the ectocyst having filled with serum and probably burst free again.

The rupture of the cyst had given rise to no special symptoms. There was only a slight rise of temperature to 99.6° for three days before operation.

The wound healed by first intention, and a good recovery took place.

DERMOID CYST OF THE PELVIC CONNECTIVE TISSUE.

By KROGIUS, Helsingfors. *Archiv. f. Klin. Chir.*, 1899,
Bd. lx., Heft 1.

The tumour had affected the patient, a woman of 25, for ten years, and caused pronounced obstipation even for seven weeks. The tumour lay in the retrorectal connective tissue, pushing the bowel forwards and occupying the whole of the pelvis. It was successfully removed by a parasacral operation.

INFECTION OF AN OVARIAN CYST BY THE TYPHOID BACILLUS.

By WAIGREN.
Archiv. f. Gyn., B. lix., H. 1.

Three cases of such infection are already published, to which the author adds the following:—An examination of a patient, aged 39, who had passed through a six weeks' fever, disclosed a tumour in the hypogastrium which she had long been conscious of, and which had become painful during this illness. Rigors and fever were common generally in the evening, she had no appetite and slept badly. The tumour was diagnosed as an ovarian cyst and removed by laparotomy. It proved to be a dermoid cyst of the right ovary containing 1.5 litres of greenish yellow, sickly smelling fluid with brighter flakes and lumps, and a few hairs. From this fluid cultivations were made of bacilli, which examinations proved to be identical with the Eberth-Gaffky bacillus typhosus.

OVARIAN ABSCESSES, THEIR DIAGNOSIS AND ÆTIOLOGY.

By PITHA (Prague). *Monatsschrift f. Geb. u. Gyn.*, Bd. x.

From a very searching examination of the reported cases, the author concludes that it is hardly possible in any case of ovarian abscess to make a sure diagnosis before operation, and gives the details of six new cases. In the ovary purulent inflammation most commonly attacks a Graafian follicle during its metamorphosis into a corpus luteum, and it is probable that all solitary ovarian abscesses originate in yellow corpuscles. Certainly such purulent inflammations take their origin from glandular rather than from interstitial tissue. Ovarian abscesses are surely metastatic, but generally are of puerperal origin, and are to be referred to gonococci and streptococci.

OVARIUM GYRATUM. By ABEL.

Archiv. f. Gyn., B. lix., H. 1.

In the extirpation of a uterus for cervical carcinoma Abel accidentally met with a peculiar deformation of the ovaries, to which he gives the above name. The organs were almost double the natural size, and exhibited deep and shallow sulci

which gave them the appearance of the brain of the human foetus. From microscopical examination he believes the condition due to shrinkages in ovaries previously enlarged by overgrowth of connective tissue and œdematous infiltration.

PAROTID GLAND THERAPY IN OVARIAN DISEASE.

By JOHN B. SHOBER. *Amer. Jour. of Obstetrics*, September, 1899.

In this paper are reported nine cases of ovarian congestion and chronic oöphoritis treated by means of desiccated parotid gland of the sheep. This agent is prepared in tablet form, so that each tablet contains two grains of the desiccated powder, which is equivalent to twenty grains of the fresh gland. Three to six tablets are given daily. The cases which can be treated by this method must be free from extensive pelvic inflammatory disease, and the tubes must not be extensively involved. The patients have constant discomfort and severe pain, aggravated a few days before the menstrual period, which is irregular. The cases reported have all suffered from these painful symptoms for many months or years. They all show marked benefit, the ovarian pain being relieved and the menses being regular and less painful. The duration of parotid gland treatment varied from three weeks to four months.

J. F. J.

SUPPURATING CYSTS OF BOTH OVARIES REMOVED BY ABDOMINAL SECTION FIVE WEEKS AFTER AN ABORTION, FOLLOWED BY SEPTIC INFECTION; RECOVERY.

By ERNEST A. T. STEELE, M.R.C.S. *Lancet*, 1899, April 29.

This case is a very good illustration of the dangers to which small ovarian cysts may give rise if they become infected and suppurate after parturition or abortion.

J. F. J.

PRELIMINARY REPORT OF TRANSPLANTATION OF THE OVARIES.

By JAMES F. McCONE, *Amer. Jour. of Obsts., &c.*, August, 1899.

As a result of a series of experiments on thirty animals, the author has come to the following conclusions:—

(1) Contact between ovary and tube is not essential for conception.

(2) Ovaries grafted from one part of an animal to another part of the same animal continue to grow, to functionate, and pregnancy can and does occur.

(3) An ovary grafted from one animal to another of the same species continues to functionate, and maintains the normal condition of tubes and uterus. Pregnancy can occur.

(4) Ovaries grafted from one species to another continue to functionate, and seem to prevent post-castration atrophy of tubes and uterus.

(5) Best results are obtained where the raw surface of the transplanted ovary is sewed to a denuded surface.

J. F. J.

A CONTRIBUTION TO THE STUDY OF SARCOMA OF THE OVARY.

By Dr. G. GOUTIN, *Archivio. di Ostet. e Ginec.*, August, 1899.

The round-celled sarcomata, microscopically considered, have no special characters which separate them from those with spindle cells, and Veit ascribes to them the appearance of simple hypertrophy of the ovaries. They are whitish or yellowish on section, and may become encephaloid as they grow, and may reach the size of a child's head or more. Their degeneration most commonly takes the fatty form, and leads to fluid cyst in the tumour, so regularly that Kœberlé says he has never seen an absolutely solid tumour of the ovary.

Thrombosis in the veins, especially in those of the degenerated foci, may lead to metastases in the stomach, the intestines, the peritoneum, and the pleura, or to hæmorrhage into the tumour with consequent necrobiosis, rupture of the capsule, and fatal peritonitis, as in a case reported by Spiegelberg.

While the spindle-celled sarcomata have very little tendency, the round-celled sarcomata are very prone to metastases, owing to the abundance of small active embryonic elements, and their close relationship with the rich network of capillaries into which both the cells and the interstitial fluid penetrate with great facility. The round-celled sarcomata are also much more rapid in growth, and are largely influenced in this way by pregnancy and the puerperium.

Sarcoma of the ovary has a preference for the first half of life. In thirty-six cases five were in women under 20, nine were in women between 20 and 30, eighteen cases from 30 to 40 and over, and four cases from 58 to 67; not infrequently a greater or less amount of serous exudation into the abdominal cavity complicated the case.

The fatal issue is generally by marasmus, sometimes by peritonitis, pleurisy, or embolism of the pulmonary artery. Sarcoma of the ovary is rare. Among 600 operations for ovarian tumours Schrœder met with only ten cases. The spindle-celled forms are most common, mixed forms are next frequent, while pure round-celled sarcoma is very uncommon. The author's case is reported as follows:—

A. S., housewife, of Florence, married, 43 years old, admitted December 7, 1898, with a good family history. Menstruated first at 15, physiologically, was never pregnant, and was quite regular until four years ago, when the discharge was absent for four months, to return with greater losses afterwards. She had pains in the legs and stomach, which latter were worse after

food. The urine was scanty and passed with difficulty. As there was an abdominal swelling she came to the out-patient department. On inspection the epigastric region is slightly swollen. A tumour is felt distinctly and localised in the inferior quarter of the abdomen, more to the left and reaching nearly to the umbilicus. *Per vaginam* the uterus is found small, elevated to the left, and markedly anteflexed. The posterior fornix is occupied by the inferior pole of the tumour. *Diagnosis*.—Solid tumour of the right ovary. On abdominal section under chloroform (December 11, 1898) copious lemon-coloured serum escaped from the abdomen. A tumour, larger than a man's head, smooth and like a large egg with its smaller end above, was removed, and its pedicle, full of large veins, was ligatured. The patient did well until the ninth day, when, as she was eating, dyspnœa and syncope came on, and she died.

Post-mortem.—There was no peritonitis. The right iliac veins were full of thrombi, and an embolus was found at the bifurcation of the pulmonary artery.

The tumour, examined microscopically, showed a capsule of fibrous tissue and spindle cells. The centre consisted of small round cells with largish pigmented nuclei of various sizes. Among these cells were numerous vessels with intact endothelium. The left iliac vein was free from neoplastic infiltration, but the coats were infiltrated by leucocytes. The embolus in the pulmonary artery was found to consist of ordinary clot without any appearance of new growth.

As most of the round cells were found massed round the capillaries, the endothelium of which was intact, this case supports the view that these sarcomata arise from the adventitia of the vessels. Amann has described such a case as a perithelioma.

FRED EDGE.

ON TUBAL CYST. By STOLZ (Graz).

Monatsschrift f. Geb. u. Gyn., Bd. x.

From examination of a cyst, the size of a child's head, Stolz concludes that it had arisen from adhesions in the folds of the mucosa, forming, as it were, diverticula. Torsion of the pedicle led to congestion of the wall, and effusion of blood into the cavity of the cyst.

EXPERIMENTS ON THE OBLITERATION OF THE CANAL OF THE OVIDUCTS. By L. FRAENKEL.

Archiv. f. Gyn., Bd. lviii., S. 374.

Fraenkel has conducted a series of experiments on rabbits to ascertain whether, and in what way, it is possible to make the oviduct and uterus horn absolutely impermeable to ovulum

and sperma, or to either of them. Though he tried simple ligature, simple section, double ligature and section, double ligature and resection, and resection without ligature, and also cauterisation of the surface of section and even of the canal in both directions, he only succeeded in two experiments out of thirty-three in obtaining absolute atresia of the canal. In twenty-seven experiments on the horn of the uterus there was not one single instance of perfect atresia at the seat of the ligature or section. These experiments are of great importance in relation to operations on the tubes in women, especially since Kehrer has proposed, under the strictest indications, to divide the tubes between double ligatures in order to prevent conception. Fraenkel believes that the only operation on the tubes that can be depended upon to prevent pregnancy is their total removal by a wedge-shaped excision out of the uterus, followed by careful stitching of the peritoneum. The author's results will be of service in deciding upon the method of extirpation of inflamed adnexa.

ON THE EXPERIMENTAL PRODUCTION OF HYDROSALPINX AND HYDROMETRA IN ANIMALS, AND ITS RELATION TO HYDROSALPINX IN THE HUMAN SUBJECT.

By C. J. BOND. *Lancet*, July 22.

This interesting paper describes the artificial production of hydrosalpinx and hydrometra in animals by ligaturing tubes and uterine cornua. By these experiments the author establishes the fact of Fallopian tube secretion of the passage of fluid from the tube into the uterus, but not under ordinary circumstances from the uterus into the tube. This will only take place under some abnormal condition. On ligaturing a cornu of the uterus in the lower animals a hydrometra resulted, the fluid being very like that in the artificially produced hydrosalpinx. It is interesting to note that if pregnancy was present in the other cornu no hydrometra formed, the uterine secretion ceased during pregnancy.

J. F. J.

ON THE ANATOMY AND PATHOLOGY OF TUBAL PREGNANCY.

By E. KREISCH (Coblenz).

Monatsschrift f. Geb. u. Gyn., Bd. ix., Heft 1.

From microscopical examination of a series of fresh specimens the author, after minute description, declares that the tubal mucosa disappears at the seat of attachment of the ovum. He considers that he has in his preparations certain proof of the formation of a decidua reflexa in the tube.

RIGHT TUBAL PREGNANCY RUPTURED IN FIFTH MONTH, DELIVERY OF A LIVING CHILD FREE IN THE ABDOMEN BY CELIOTOMY IN THE EIGHTH MONTH.

By H. v. BOTH (Berlin).

Monatsschrift f. Geb. u. Gyn., Bd. ix., Heft 1.

The pregnancy had not been interrupted on the expulsion of the decidua in the third month, at which time the condition had been correctly diagnosed. Rupture of the foetal sac undoubtedly occurred without any severe symptoms, in the fifth month. In the eighth month secondary abdominal pregnancy was made out, and on laparotomy the foetus was found lying free between the coils of intestine. It was found possible to separate the placenta from its various attachments and the woman recovered. Examination of the specimen showed that the ovum had developed in the ampullary part of the tube; the whole length of the tube contained decidua, and the author attributes this remarkable fact to the advanced stage of the pregnancy.

REPEATED ECTOPIC GESTATION IN THE SAME PATIENT. By Dr. JOHN EDGAR, WITH PATHOLOGICAL REPORT BY JOHN H. TEACHER, M.B.

Edinburgh Medical Journal, for July, 1899.

For seven weeks, from March to May, 1896, patient had amenorrhœa with symptoms of pregnancy, followed by sudden collapse and cramp-like pains in the abdomen, with uterine hæmorrhage for four or five weeks. Return to good health, normal menstruation in July, August and September, the amenorrhœa from September 2, to October 30. On October 28, patient fainted seven times, cramp-like pains in abdomen, followed by uterine hæmorrhage, which lasted on and off till November 18. On November 22, double salpingo-oöphorectomy was performed. The pathological report is most interesting and shows clearly an old pregnancy of the right tube which had ruptured and a recent pregnancy of the left tube. The patient made an uninterrupted recovery.

J. F. J.

ON TREATMENT BY OVERLOADING. BELASTUNGSTHERAPIE.

By HALBAN (Vienna). *Monatsschrift f. Geb. u. Gyn.*, Bd. x.

This treatment is carried out by placing on the abdomen of the patient, whose pelvis is elevated, a bag of shot, and in her vagina a colpeurynter filled with mercury, and thus subjecting the inflamed parts for about an hour to equable pressure from both sides. The method is specially applicable to chronic tumours of the adnexa, but only when there is no recent inflammation, and the weight employed must be increased only

by very slow degrees. Cicatrices after cervical lacerations and perimetritic and parametritic exudations may also be so treated. Particularly good results may be attained in large effusions in the parametrium, and also in retroflexion of the womb.

THE TREATMENT OF INFLAMMATION OF THE UTERUS AND ITS
ADNEXA BY INTRA-UTERINE INJECTIONS.

By G. J. LEBEDEFF. *Centralblatt f. Gyn.*, 1899, No. 28.

Lebedeff uses a Braun's syringe and 2 ccm of the following solution: Tc. iodi, sp. vin. rect. (97 per cent.) aa 25, alum. 2.55, daily in the spreading forms of gonorrhœa of the female genitals, and has done so in a vast number of cases. Twenty-five were cured, ten greatly benefited, one with cystic degeneration of the ovaries was not cured. The method was most efficacious, in cases with adnexal affections or perimetritic exudation, in the relief of pain, hæmorrhage, and discharge, but it is especially in recent disease of the uterine cavity that the author recommends this treatment. The anatomical effect was ascertained by microscopical examination of fragments of the mucosa curetted before and after treatment. Before it the mucous membrane exhibited the condition of glandular endometritis, and gonococci were found in more than half the cases. After treatment, and also many months after the omission of any medication, the discharge was free from gonococci and the mucosa normal. No evil consequences followed the injections, which must be made in sight and absolutely aseptic. The disappearance of inflammatory symptoms is promoted by the temporary rest in sexual matters, the amenorrhœa caused by the injections, and the healing of the uterine mucosa which ceases to be a focus of infection.

This article is based upon a series of 37 cases, in which 1355 injections were made.

RECTAL IRRIGATION IN GYNÆCOLOGY.

By Dr. CLARENCE REGINALD HYDE.

The Amer. Gyn. and Obstet. Journ., August, 1899.

The author does not advance the claim that rectal irrigation should ever supersede vaginal douching, but that it is a substitute in selective cases. In rectal irrigation a large vascular area is affected by the heat, and the ultimate effect must be correspondingly marked. It also increases peristaltic action and acts reflexly on the cardiac muscle, as seen by its effect in shock. A large-sized glass rectal tube, with small holes, is advisable. At least two gallons, preferably six to eight of saline solution, at 110° to 115° F. give the best results. Negative effects arise from the use of too small a quantity of water and not of a sufficiently high temperature.

The cases in which rectal irrigation is applicable are:— (1) leucorrhœas; (2) as a substitute for vaginal douching in young girls; (3) acute and chronic ovarian and tubal lesions, with the possible exception of pyosalpinx; (4) intestinal paralysis following sepsis; (5) after major pelvic operations to relieve any abdominal discomfort or tympanites; (6) intestinal colic; (7) doubtful in constipation.

In the subsequent discussion, Dr. Hanks emphasised its advantages especially in chronic pelvic cellulitis and peritonitis, and in acute nephritis. Dr. Palmer Dudley also had found it beneficial in cases of albuminuria following operation.

J. F. J.

DISORDERS OF THE MENOPAUSE. By E. W. CUSHING, M.D.
Annals of Gynæcology and Pediatrics, July, 1899.

They are divided by Dr. Cushing into two classes: (1) Disorders of the circulation (*a*) flashes (*b*) flowing; (2) Disorders of the nervous system; (*a*) palpitations (*b*) fainting (*c*) hysteroneuroses (*d*) psychic disturbances; and practically a third division should be recognised, viz., disorders incident to the period of life during which the menopause occurs, in connection with which division the following axioms are laid down.

(1) All irregular or profuse hæmorrhages about the period of the change of life are suspicious; they therefore require immediate, thorough and competent examination.

(2) All cases of incipient cancer of the uterus are easily diagnosed by competent examiners, by the aid of the curette and microscope in doubtful cases, but usually by the presence and character of an ulcer.

(3) All cases of cancer of the uterus in the early stages are susceptible of complete removal by total hysterectomy.

(4) A large proportion of these cases operated upon early never have relapse or recurrence in the scar or elsewhere.

Dr. Cushing also dwells upon other disorders incident to this period of life, especially fibroid tumours, adenoma of the uterus, endometritis, and old lacerations of the cervix.

J. F. J.

TORSION OF THE UTERUS AND DISPLACEMENT OF A CYSTOMA OF THE LEFT OVARY TO THE RIGHT SIDE.

By A. WINTER, Hagenau. *Centrbl. f. Gyn.*, 1899, No. 39.

A nullipara, aged 44, underwent operation for a large abdominal tumour which proved to be a multilocular cyst of the left ovary totally displaced to the right side and there fixed by firm adhesions to the omentum and intestines especially to the cæcum and vermiform appendix. The uterus was twisted

about its long axis, the left tubal insertion was dragged out backwards to the extent of 3 or 4 cm. and was included in the pedicle. The right ovary was degenerated (small cysts) and was also removed; the patient died the same evening from shock. This is the forty-first published case of torsion of the uterus about its long axis.

A CASE OF INVERSION OF THE UTERUS. By JOHN W. TAYLOR.
Birmingham Medical Review, August, 1899.

The patient, primipara, was confined on August 9, 1895. The delivery of the child was normal, but the placenta was retained, and when finally expelled the fundus of the uterus came with it so as to produce a complete inversion. There was hæmorrhage and collapse, and no attempt was made to replace the inverted uterus, which continued and became chronic. Under treatment her general condition improved, and on August 23 she was admitted to the Women's Hospital, Birmingham. The vagina was disinfected, and the largest size of Tait's repositors was applied to the inverted uterus. The elastic was tightened sufficiently to keep it in place. This was on the 24th. On the 26th the uterus was found to be completely replaced, although the patient could not tell when the reduction was effected. With the exception of a temporary pyrexia the patient made an uneventful recovery. From first to last the absence of pain was remarkable.

J. F. J.

NOTE ON A CASE OF CHRONIC INVERSION OF THE UTERUS,
REPLACED BY MANIPULATION AFTER POSTERIOR COLPOTOMY
HAD BEEN PERFORMED. By J. W. STRUTHERS.

The Scottish Med. and Surg. Journal, August, 1899.

Nineteen months before admission to the hospital patient was delivered of her eighth child. The child was born suddenly on to the floor and the inversion was evidently produced then. While nursing her baby no hæmorrhage (for thirteen months); for last six months free hæmorrhage and discharge. For two days Aveling's repositor was tried; the discomfort of this instrument, however, was unbearable. On October 25, 1898, Dr. Berry Hart operated. He opened Douglas's pouch by posterior colpotomy and then reduced the inversion by manipulation. There was no incision of the uterus. Uninterrupted convalescence.

J. F. J.

A CASE OF CHRONIC INVERSION OF THE UTERUS REDUCED BY
A VELING'S REPOSITOR.By JOHN B. HELIER. *Lancet*, July 15, 1899.

The patient was delivered on October 4, 1898, and was admitted into the hospital at Leeds on April 11, 1899. Taxis was ineffectually tried, and on April 25 Aveling's repositr was applied. The cup employed had a diameter of one and a half inches. On April 27, after fifty-one hours of application the fundus was found to have gone up. Ether had to be given to remove the repositr, the cup being tightly gripped by the cervix. After a slight rise of temperature the patient made a good recovery.

J. F. J.

INVERSION OF THE UTERUS, WITH A REVIEW OF THE VARIOUS
OPERATIVE PROCEDURES FOR ITS TREATMENT, AND A
DESCRIPTION OF THE WRITER'S OPERATION FOR CHRONIC
INVERSION. By Dr. B. BERNARD BROWNE.*The Amer. Gyn. and Obstet. Journal*, August, 1899.

This is an interesting survey of the history of inversion, and a brief review of the various methods of treatment for acute and chronic cases. The author himself has seen six cases, two acute (reduced by taxis), three due to intra-uterine fibroids (reduced by taxis after enucleation of fibroids) and one chronic. This last case defied every attempt at reduction by taxis or pressure, and finally was operated upon by the following method. The inverted fundus was drawn outside the vulva with strong vulsellum forceps, the openings of both Fallopian tubes were plainly visible, an incision one inch and a-half in length was made through the posterior portion of the uterus (avoiding the Fallopian tubes and larger vessels at the side of the uterus). Through this incision Sims' large dilator was passed up into the cervix and expanded to the fullest extent; the rigid tissues of the cervix were felt to relax; then upon withdrawing this dilator, Nos. 2 and 3 of Hank's hard-rubber dilators were passed through the cervix. The incision in the uterus was sewn up with carbolised silkworm-gut, and with slight manipulation, the fundus was easily replaced through the now passable constriction. She made an uneventful recovery. In the discussion on this paper Doctors Currier and Coe expressed a preference for Thomas' operation, while Howard Kelly and Charles Noble preferred Küstner's operation, other speakers preferred taxis, but did not say what they would do in chronic cases if taxis failed to effect reduction.

J. F. J.

A CASE OF SUDDEN EXTRUSION OF UTERINE FIBROID
SIMULATING INVERSION OF THE UTERUS.

By E. MALINS. *Lancet*, July 29.

In this case the fibroid had been suddenly extruded during straining to pass water, with intense pain, loss of blood and fainting. On admission to hospital she was collapsed, with pinched face, cold surface, vomiting, small rapid pulse and severe pain in the abdomen. The fibroid had so pulled the uterus down into the vagina that many of the signs of inversion were present. After some search a small aperture was found low down in the vagina, behind the attachment of the tumour, which had its attachment to the anterior lip of the cervix. The tumour, weighing 2 lbs. and 6 ounces, was removed, and patient recovered.

J. F. J.

THREE YEARS' INDUCTIONS OF PREMATURE LABOUR FOR CONTRACTED PELVIS IN THE GLASGOW MATERNITY HOSPITAL.
By Dr. MALCOLM BLACK. *Glasgow Medical Journal*, August, 1899.

It is impossible in a short abstract to do justice to this clearly written and instructive paper. It is a record of three years' experience. Induction was adopted in the following conditions: (a) When the pelvis is too small to let a living child at term through at all (with the true conjugate under three inches). (b) When it is so small that it will let it through only with difficulty, and with more or less danger both to the child and the mother (with a true conjugate of not less than three, but under four inches). (c) When it is not too small to prevent the possibility of getting a viable child through it earlier in the pregnancy (with a true conjugate over two inches). The method employed to induce labour is Krause's, by inserting a gum-elastic bougie into the uterus, between the membranes and the uterine wall. A full description of the means adopted to ensure asepsis is given. From the introduction of the bougie to delivery the time varied from twelve hours to eight days; in the majority it was within four days.

Fifty cases are reported. Of the mothers two died, the rest were all dismissed well. Five of the labours had to be completed by craniotomy. In the remaining forty-five cases, fifteen children were still-born (either born dead or dying immediately after birth); ten were born alive, but died before leaving the hospital, and the remaining twenty were born and dismissed alive, and apparently likely to live. A history of each case is given, and then the author goes on to say:—"Of these fifty cases of induction of labour, two, as we have seen, were fatal to the mother. In the first case, induction was done far too

late, and delivery should have been effected by craniotomy or Cæsarian section. In the second, the fatality was occasioned by an accident directly resulting from the induction. (Rupture of cervix by an indiarubber Dr. Ribes' bag and hæmorrhage). . . . Notwithstanding our two fatalities, it seems to me that, in a case of contracted pelvis, if an induction is timely and carefully done, and with strict aseptic precautions, it ought to be little, if any, more dangerous to the mother than a labour at full time through a normal pelvis."

J. F. J.

TWO CASES OF RUPTURE OF THE UTERUS—ONE DURING LABOUR, THE OTHER OF TRAUMATIC ORIGIN.

By T. W. JENKINS. *Glasgow Medical Journal*, August, 1899.

In the first case version was performed with comparative ease, but perforation was necessary before delivery could be effected. This was done without anæsthesia and the patient seemed well. The doctor in attendance, on introducing his hand to remove the placenta found his fingers touching the liver before he realised what had happened. There was nothing in the condition of the patient to indicate such a serious complication. Dr. Jenkins then saw her and did a clamp hysterectomy. The patient did well till the third day, when she raised herself in bed and died suddenly. The author thinks it would be wiser simply to wash out the abdomen, suture the upper peritoneal margin of the wound to the serous coat of the bladder, open the anterior *cul-de-sac* and drain *per vaginam*.

The second case was due to dilatation of the uterus after incomplete abortion. During the dilatation under anæsthesia a coil of intestine came down into the vagina and there was severe hæmorrhage. She was removed to the hospital and Dr. Parry had to open the anterior and posterior fornices and apply clamp forceps to the left broad ligament. The patient did well except for constant pelvic pain, which was only relieved eighteen months later by the author opening the abdomen and separating adhesions of omentum and bowel to the uterus and broad ligament.

J. F. J.

SECTIO CÆSAREA ON ACCOUNT OF ECLAMPSIA.

By HILLMANN (Jena). *Monatsschrift f. Geb. u. Gyn.*, Bd. x.

The condition of the patient, a primipara, after seven fits, became extremely critical, in spite of narcotics and wet packing—no attempt at labour. A dead child was extracted by Cæsarean section (anterior longitudinal incision in the uterus). The mother's recovery was interrupted by severe bronchitis only.

The author has collected 40 reported cases of Cæsarean section for eclampsia: 21 mothers died, 19 recovered, and of 41 children 23 lived and 18 died.

CÆSARIAN SECTION WITH FRITSCH'S TRANSVERSE FUNDAL INCISION.

L. THUMIN, *Centralblatt f. Gyn.*, 1899, No. 19,

Reports a successful case of L. Landau's, a woman, aged 35, with a generally contracted, flat, rickety pelvis, who in seven labours previously had not had one child alive.

JOSEF V. BRITTENBERG, *Ibid.*, S. 542, in connection with a successful operation of Ehrendorfer's on a 33-years old III.-para with a similar pelvis, insists on the advantage of the fundal incision in the avoiding of the lower segment of the uterus and in the easier extraction of the child.

SIEDENTOPF (Magdeburg), *Ibid.*, S. 546, reports three cases all successful for mother and child; two were primiparæ with flat, rickety pelvis, the third a multipara with inoperable carcinoma of the portio.

W. PERLIS (Kief), *Ibid.*, S. 550.—A case of secundipara with suppurating inoperable carcinoma of the portio; the immediate result was successful for mother and child.

ROSSA, *Wiener k. Wochenschrift*, 1899, No. 16, recommends some changes in technic by which he hopes the mortality of Cæsarian section will be diminished. The operation should only be done on the strictest indications and always by Fritsch's fundal incision. By this method the wound in the abdominal wall can be kept very high, and the development of abdominal hernia, which is generally below the navel, to a great extent prevented. Diminished hæmorrhage and a more rapid shrinking of the incision once the uterus is emptied are further advantages, and the possibility of more thorough and less dangerous post-partum massage of the uterus than can be attempted with the longitudinal cut. Another improvement is in operating without preventive compression. Some danger of infection is thereby avoided, and the atony that may be caused by keeping the uterus so long without blood is escaped. A third point in simplifying the technic is in the omission of any special treatment of the interior of the uterus. By an aseptic method one may leave the uterus alone once it is emptied.

CÆSARIAN SECTION. FUNDAL INCISION.

By OTTO TRINKS (Tübingen.) *Hegar's Beiträge zur Geb. u. Gyn.*, Bb. i., Heft 3.

Professor Döderlein has done five successful Cæsarian sections with Fritsch's fundal incision in cases of contracted pelvis four

of the second or third degree, and one due to osteomalacia. The extraction of the child and the protection of the peritoneum from the liquor amnii was, of course, possible with the old classical incision, by dragging the uterus forward and the Trendelenburg position; but Fritsch's method has more than these advantages. Firstly, the very limited hæmorrhage from the wound in the uterus and the prompt closing up of this wound; no compression of the broad ligament is wanted, and in only one case was it necessary to secure the branches of the spermatica int. in the ends of the fundal incision. The anæmia of the line of suture, mentioned with apprehension by Everke, was met with in one case but caused no trouble, and Trinks points out the danger of accepting such anæmia as a reason for slack sutures, firm unyielding suture of the uterine wound being a primary condition for successful results; and such suture of the fundal incision is easily secured, as the edges of the wound are symmetrical in thickness and solidity. That a serosa-serosa stitch cannot be done because of the close attachment of the peritoneum does not matter. The method of incision does not seem to affect the origin of adhesions between the uterus and abdominal wall. In castration for osteomalacia, the uterus, if not infected, should be preserved.

CÆSARIAN SECTION. REPEATED TRANSVERSE FUNDAL INCISION.
By H. LUDWIG (Vienna.) *Centralblatt f. Gyn.*, 1899, No. 27.

In two operations on the same woman the uterus was opened by a transverse incision through the fundus and the child extracted alive. The abdomen was opened the second time in the scar of the first wound; and the result of the first operation was blameless in so far that the adhesions to the uterine cicatrix were of very slight extent, and this cicatrix was only evident through the old silk suture. Its course was not marked by any retraction into the uterine mass.

The author concurs in the favourable opinion of Fritsch's transverse incision.

TWO CASES OF RUPTURE OF THE UTERUS—POST-MORTEM
CÆSAREAN SECTION—ONE CHILD SAVED. By FRANCIS D.
KENDALL, M.D. *Ann. of Gyn. and Ped.*, Boston, 1899, March.

(1) Patient just dead, body still quite warm; the child could be felt moving, and on opening the abdomen was found outside the uterus, which had ruptured to its entire length on the left side. On the right side there was an intra-mural fibroid which, with the uterus, weighed fourteen and a quarter pounds. The child, weighing nine pounds, died just after it was delivered.

(2) Somewhat similar to the first. The mother when seen was dying, but the child could be seen moving distinctly. In

half an hour the mother died. The abdomen was at once opened. The uterus was found split from the fundus to the os on the left side. The child, a boy, weighing ten and a half pounds, was removed. This was in January, 1897. The boy is alive and well.

Both mothers were primiparæ.

J. F. J.

SYMPHYSIOTOMY. *Bristol Medico-Chirurgical Journal*, 1899, March.

A most successful case of this operation is reported by Walter C. Swayne. Labour had been in progress thirty-six hours before admission. Fœtus in third position. Diagonal conjugate $3\frac{1}{4}$ inches, transverse diameter lessened and ilio-pectineal line within easy reach throughout its whole length. Axis-traction forceps failed to deliver. On dividing the symphysis the two halves separated for one inch. Delivery was then effected with the forceps. Recovery uneventful. Patient walked over two miles seven weeks after operation. Child living.

J. F. J.

SHOULD PERFORATION BE IMMEDIATELY FOLLOWED BY EXTRACTION OF THE CHILD. By W. ZANGEMEISTER (Berlin).

Centralblatt f. Gyn., 1899, No. 40.

Spiegelberg, Zweifel, Martin, Winckel, and Fehling, advise that delivery should be completed directly after perforation, but the author agrees with Schroeder, Ahlfeld and Kehrer that this should only be done under certain indications, and denies the alleged dangers of expectancy, such as increased liability to infection, greater tendency to vaginal laceration, &c. In head presentations of a dead child, in placenta prævia, in prolapse of the cord, and in cases of contracted pelvis with premature rupture of the membranes, while advocating early perforation he recommends that complete dilatation and expulsion should be left to nature, pointing out that extraction is attended by special dangers in the necessity of narcosis, the forcible emptying of the uterus with its consequences of premature detachment of placenta and atony, and the possibility of fresh infection and injury of the womb.

ON DIFFERENT FORMS OF STREPTOCOCCI. By MENGE & KRONIG.

Monatsschrift, f. Geb. u. Gyn., Bd. ix., Heft 1.

After detailed account of their painstaking methods and laborious experiments, the authors declare: that there are several different forms of streptococci which closely resemble one another in form, arrangement and staining, but exhibit important variations under cultivation, especially in regard to their sensitiveness to the oxygen of the atmosphere. These variations were always

to be observed not only in the individual members of a pure culture, but also in the several generations of the species. It was, therefore, possible to divide streptococci into such as absolutely require anærobic culture and such as do not. The sensibility of the former to oxygen is very great and they, therefore, do not flourish in either fluid or solid media unless special measures are taken to exclude the atmospheric oxygen completely.

And even among the absolutely anærobic streptococci there are various sorts, one of which is distinguished by setting up stinking decomposition in artificial media. Of the absolutely anaerobic streptococci some are commonly found as saprophytes in the vaginal secretion, and others which live as true parasites of the body are to be met with, for example, in putrid peritonitis.

As a rule the streptococci met with in any field of examination are all absolutely anaerobic or all not so. Occasionally the two kinds co-exist, as was observed in putrid peritonitis and in lochial secretions.

THE VALUE OF ANTISTREPTOCOCCIC SERUM IN THE TREATMENT OF PUERPERAL INFECTION.

American Jour. of Obstetrics, &c., September, 1899.

This is a very exhaustive report of a committee of the American Gynæcological Society, consisting of the following: J. Whitridge Williams, William R. Pryor, Henry D. Fry and Edward Reynolds.

After a complete investigation of the literature bearing on the subject, and an enquiry into the experience of each member, they have come to the following conclusions:—

(1) A study of the literature shows that 352 cases of puerperal infection have been treated by many observers, with a mortality of 20-74 per cent.; where streptococci were positively demonstrated, the mortality was 33 per cent.

(2) Marmorek's claim that his antistreptococcic serum will cure streptococcic puerperal infection does not appear to be substantiated by the results thus far reported.

(3) Experimental work has cast grave doubts upon the efficiency of antistreptococcic serum in clinical work, by showing that a serum which is obtained from a given streptococcus may protect an animal from that organism, but may be absolutely inefficient against another streptococcus, and that the number of serums which may be prepared is limited only by the number of varieties of streptococci which may exist.

(4) Thus far the only definite result of Marmorek's work is the development of a method by which we can increase the virulence of certain streptococci to an almost inconceivable

extent, so that one hundred billionth of a cubic centimetre of a culture will kill a rabbit.

(5) The personal experience of the committee has shown that the mortality of streptococcus endometritis, if not interfered with, is something less than 5 per cent., and that such cases tend to recover if nature's work is not undone by too energetic local treatment.

(6) The committee unhesitatingly condemns curettage and total hysterectomy in streptococcus infections after full-term delivery, and attributes a large part of the excessive mortality in the literature to the former operation.

(7) In puerperal infections a portion of the uterine lochia should be removed, by Döderlein's tube, for bacteriological examination, and an intra-uterine douche of four to five litres of sterile salt solution given just afterwards. If the infection be due to streptococci, the uterus should not be touched again, and the patient be given very large doses of strychnia and alcohol if necessary. If the infection be due to other organisms, repeated douchings and even curettage may be advisable.

(8) If the infection extends towards the peritoneal cavity, and in gravely septicæmic cases, Pryor's method of isolating the uterus by packing the pelvis with iodoform gauze may be of service.

(9) The experience of one of the members of the committee with antistreptococcus serum has shown that it has no deleterious effect upon the patient, and therefore may be tried if desired. Nothing is found in the clinical or experimental literature, or in the committee's experience, to indicate that its employment will materially improve the general results in the treatment of streptococcus puerperal infection.

J. F. J.

INVESTIGATIONS OF THE BACTERIAL CONTENTS OF THE
PUERPERAL UTERUS. By STAHLER & WINKLER (Marburg).

Monatss. f. Geb. u. Gyn., Bd. ix., Heft 1.

In most cases of apyretic childbed the uterus is germ free; saprophytic germs may be found occasionally, but provided there be adequate discharge of their metabolic products they cause no symptoms. It is probable that benign germs may give rise to slight inflammation of the endometrium without there being any rise of temperature. In about one-third of the cases in which the uterus was found to contain germs in puerperæ whose temperature did not exceed 38° C., the bacteria were anærobic. The women were generally examined on the tenth day.

CURETTEMENT IN PUERPERAL FEVER. By HENRY PERCY, M.D. (Lausanne). *Annals of Gyn. and Ped.*, 1899, Feb.

The two indications for curetting after labour are (1) retention of a portion of the placenta, and (2) the appearance, after an apparently normal labour, of fever with foetid lochia and other symptoms of infection of the uterus. The treatment adopted in the maternity of Lausanne when puerperal infection threatens to appear or has actually appeared is as follows:—“As soon as a rise in temperature has been found after labour an antiseptic intra-uterine irrigation (0.001 or 0.002 sublimate solution) preceded by a thorough vaginal irrigation. The irrigation is repeated next morning and several times during the day. On the next day, if the temperature has become frankly febrile, and the lochia are thick with a tendency to foetor, curettement is done.” Intra-uterine irrigations are continued for the next few days. When the fever has completely disappeared simple vaginal irrigation, are begun. The nature of the solution employed should be changed as frequently as possible. The dangers to be avoided are sepsis and perforation during the curettement. It can be done in cases with puerperal parametritis with strict attention to asepsis. It has no effect on the parametritis for good nor evil; at the same time in acute cases it will be wiser to abstain unless urgently demanded. Reports of cases are appended.

J. F. J.

ON CURETTING OF THE UTERUS. By M. SÄNGER (Leipsic). *Monatsschrift f. Geb. u. Gyn.*, Bd. ix., S. 362.

In connection with a report made by Boldt, of New York, Säger reiterates his warnings as to the terrible danger and results of the use of the curette in the pregnant womb, and of the intra-uterine employment of forceps without the guidance of the finger, in recent abortion. Even in the active treatment of incomplete abortion when part of the results of conception remain behind, digital palpation and clearing out of the cavum should precede any other action.

Boldt was summoned to a patient whose medical attendant had made a curettement with a placenta forceps in order to remove the remains of an abortion, the man thinking that in doing so he had drawn out and torn a loop of intestine. After fifty hours had passed without any symptoms of severe injury, during which Boldt, believing that the attendant had been mistaken in his impression, waited and watched, then there was an explosion of severe peritonitis, which laparotomy revealed as general; the peritoneum contained faeces and blood; the ileum, to a length of 14 cm., was ripped from its mesentery and was gangrenous; the ovum in the uterus was quite intact.

THE LOCAL TREATMENT OF PUERPERAL INFECTION WITH
ANALYSIS OF 48 CASES.

By ARNOLD W. W. LEA.

The Medical Chronicle, Manchester, August, 1899.

This is essentially a clinical study of cases of puerperal infection after labour at full term. The uterine douche alone was sufficient to check the infective process in 15 cases. As the result of exploration and curettage of the uterus there was a rapid fall of temperature in 8 cases, a gradual fall in 10 cases, a temporary increase followed by a rapid fall in 2 cases, and no effect on the temperature in 13 cases. The chief conclusions that the author comes to are: (1) if after a uterine douche there is no fall of temperature the cavity of the uterus should be explored with the sterilised finger; (2) if the initial rise of temperature is great the uterus should be explored at once; (3) in the majority of cases it is wiser to thoroughly curette the uterus. In very virulent infection early curetting with the object of sterilising the uterine cavity, affords the best chance of a successful result; (4) the prognosis, in the absence of a definite localisation of the infective process, is bad; (5) in some cases if curettage fails, and there is no evidence of general peritonitis or of infection of the blood stream, vaginal hysterectomy if performed in good time, may be successful; (6) antistreptococcic serum should be given early and freely in cases of proved streptococcic infection. It is of little use in the advanced stages of the disease.

J. F. J.

EDITORIAL NOTES.

THE XIII. INTERNATIONAL MEDICAL CONGRESS will be held in Paris, August 2-9, 1900. Professor PINARD presides over the Obstetric Section, to which the reporters will be :— (1) On the *Ætiology* and Nature of PUERPERAL INFECTIONS; DOLERIS, Paris; PESTALOZZI, Florence; MENGE and KRÖNIG, Leipsic. (2) The Treatment of APPARENT DEATH IN THE NEW-BORN; RIBEMONT-DESSAIGNES, Paris; F. H. CHAMPNEYS, London. (3) The use of the ROENTGEN RAYS IN OBSTETRICS. The President of the Gynæcological Section will be TERRIER. The Surgical Treatment of UTERINE CARCINOMA will be introduced by RICHELOT, Paris; DONITRI VON OFF, St. Petersburg, and MONTGOMERY BALDY, Philadelphia. POZZI, Paris, and DODERLEIN, Tübingen, will report on CERVICAL METRITIS.

Owing to pressure of work, Reviews of Books and Reports on Drugs, &c., are held over till next number.

BOOKS, &c., RECEIVED.

Ueber epitheliale Gebilde im Myometrium des foetalen und kindleichen Uterus einschliesslich des Gartner'schen Ganges. Dr. Robert Meyer in Berlin. Mit 36 Abbildungen im Text und auf 11 Tafeln. 8vo, pp. 154. S. Karger, Berlin, 1899.

Le Alterazioni degli Annesi nei Fibromiomi dell' Utero, con speciale riguardo alle Trombe studio anatomico-patologico del Dott. Vincenzo Greco. 8vo, pp. 136, 5 pts. Palermo, 1899.

The following reprints by Professor Calderini, of Bologna :—

Ostetricia e Ginecologia, loro fondamenti legami, confini e insegnamento. Napoli, 1899.

Intorno alla Assistenza del parto podulico. Bologna, 1899.

Sull' inclinazione del Bacino ne' vari atteggiamenti della donna, &c. Roma, 1898.

Rivoluzioni nel campo dell' ostetricia. Bologna, 1898.

Transperitoneale Einssflanzung des Ureters in die Blase behufs Herlung der Ureter-Gebärmutter-Fistel. *Monatss. f. Geb. u. Gyn.*, Bd. ix.

Descrizione di un metodo di spaccatura della cervice uterina per cura della dismenorrea e della sterilità e descrizione di strumenti ostetrici e ginecologici. *Bollettino delle Scienze mediche di Bologna*, serie vii., vol. iv. (con figure).

Beitrag zur Diagnose und Therapie des Uteruskrebses. *Berliner Klin. Wochenschr.*, 1894, vol. xv.

Sviluppo storico dell' ostetricia e della ginecologia. Prima lezione in Bologna. Napoli, *Archivio di ostetricia e di ginecologia*, fasc. 1 e 2, 1895.

Stenosi del collo dell' utero in donna affetta da isterismo. (Lezione clinica.) *La Clinica moderna*, Firenze, anno ii., 1896, n. 6.

La Gonorrea in relazione colla ginecologia e colla ostetricia secondo i più recenti studi. (Lezione clinica.) Pisa, *La Clinica moderna*, anno ii., 1896, n. 20.

Contributo allo studio della ossificazione dello scheletro embrionale e fetale coi raggi Röntgen. Roma, *Atti della Società italiana di ostetricia e ginecologia*, 1896.

Della endometrite decidua da gonococco, con alcune considerazioni sulle infezioni e intossicazioni puerperali e loro terapia. (Lezione clinica.) Pisa, *La clinica moderna*, n. 18, 1897.

By Wilmer Krusen, M.D., Philadelphia :—

Difficult Points in Gynæcological Diagnosis. 1899.

The Causation of Uterine Displacements. 1899.

Sequelæ of Abdominal Operations. 1898.

Treatment of Uterine Prolapse. 1897.

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See also Note, p. 277.

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BRITISH GYNÆCOLOGICAL SOCIETY.

THURSDAY, NOVEMBER 9, 1899.

H. MACNAUGHTON-JONES, M.D., PRESIDENT, IN THE CHAIR.

PRESENT : 29 Fellows and Visitors.

The following gentlemen were elected Fellows of the Society : Arnold W. W. Lea, M.D., F.R.C.S., Manchester ; George J. Morgan, L.R.C.P.S.I., West Hampstead.

SPECIMENS.

NOTES ON AN UNSUCCESSFUL CASE OF ABDOMINAL HYSTERECTOMY FOR MYOMA. By HERBERT SNOW. M.D. Lond., &c. Surgeon to the Cancer Hospital since 1876.

CONSIDERING that more may often be learnt from a failure than from even a brilliantly successful case, I venture to bring the following under the notice of the Society. Although incomplete, the facts seem to me of sufficient importance to be narrated very briefly ; and of considerable significance in relation to a prevailing fashion in technique.

Sarah L., single, aged 38, was admitted into the Cancer Hospital on August 14 last, with multiple myomata uteri, noticed five to six years. There had been recently a rapid increase, with a feeling of distension and weight in the lower part of the abdomen. Latterly there had been amenorrhœa for periods of two to three months. The mass filled Douglas' pouch. In front, a large "lump" was prominent slightly to the right of the umbilicus. A consultation was duly held, and the patient pronounced suitable for abdominal hysterectomy.

The patient was a rather florid young Jewess, highly neurotic, and with obvious indications of free resort to alcohol. She had no albuminuria, or other sign of organic disease. There was plainly "alcohol in the family"; as before the operation, a brother came to see the patient in the hospital ward, in an advanced stage of intoxication, and had to be turned out.

Abdominal hysterectomy was performed on August 25. The method adopted was that modification of Dr. Heywood Smith's, which I have previously described before the Society; it involves dissecting off thin muscular flaps, and not merely the peritoneal coating of the uterine tumours. The Trendelenburg posture was necessary. The abdominal wall was sutured on the line I have invariably used for cœliotomies during the past two years, and which has always answered perfectly, viz., a catgut continuous suture for the peritoneum, and interrupted silk or silkworm gut for the remainder of the abdominal wall. The only untoward point in the operation was that the dissection of the projecting bosses took over two hours, and so involved prolonged etherisation, always more or less hazardous in an alcoholic patient. [Specimen and temperature-chart exhibited.]

The next day all was well. There was no vomiting, a good pulse, and a very favourable temperature-reaction. The next morning my favourite enema of glycerine and peppermint water was administered early, and the bowels

acted well. All through the night, however, the patient was very restless and excitable. The season, it will be remembered, was then excessively hot. On paying an early visit at ten o'clock, I was informed she had tried to get out of bed, had called out that they were giving her ether instead of soda-water, had been pushing away the nurses with all her strength, and had, in short, been so violent that the friends had been sent for merely to restrain her. The tongue was moist and clean ; and the attack was hysterical rather than maniacal, the patient subsequently expressing to the nurses her contrition for having been so troublesome. When I saw her she was exhausted by these struggles, and the pulse was rather slow ; but she was calm, answered rationally, and showed no bad symptom. At twelve, however, she began to collapse. The house-surgeons transfused, but without even transient improvement. She died at half-past two. Being a Jewess no autopsy could be obtained.

In explaining the mode of death, I am loth to fall back upon the vague term "shock." There may have been internal hæmorrhage ; but I consider that possibility negatived by the absence of any improvement after the transfusion. I would ask the Society to remember the highly interesting case reported last session by my colleague, Mr. Charles Ryall ; and to bracket mine therewith. In that instance, vomiting persisted after cœliotomy, and death took place in about six days. Then it was found that the peritoneum had failed to unite ; that the internal catgut layer of sutures had ruptured, and that the intestines lay in direct contact with the muscular parietes.

Although unable to verify the view, I therefore infer that death was due in this unfortunate case also to rupture of the flimsy catgut layer holding the peritoneal edges. I submit to the Society that the present fashion of suturing in layers is highly dangerous, without provision to secure the whole thickness of the parietes. We are completely at the mercy of our patient. So long as she lies still, all

goes well ; but otherwise, the slightest tendency to hysteria or to mania proves unavoidably fatal. The old mode of a single layer of silkworm gut sutures traversing every coat was really far safer than that recent plan of numerous layers, amounting in Howard Kelly's hands actually to four.

Provided primary union is secured, there is little chance of the common bugbear, parietal hernia. But, certainly, so far as I have seen, we can much more confidently rely upon obtaining that union by an independent layer of peritoneal suture than by the former plan. Hence I suggest, as the ideal method, three or four silkworm gut sutures traversing the whole parietes, in addition to the two layers of catgut for peritoneum, and silk for muscle and skin. This would render impossible the accident I presume with confidence to have here taken place.

CASE OF MYOMATOUS UTERUS REMOVED BY SUBPERITONEAL HYSTERECTOMY. Under the care of Dr. F. A. PURCELL, Surgeon to the Cancer Hospital.

C. P., of Clapham, aged 36, married, a housewife, admitted to the Cancer Hospital, September 13, 1899. One child, aged 13, one miscarriage six weeks after. Menstruates regularly, amount normal. Looks a fairly healthy woman but anæmic, tongue clean, bowels regular, defæcation not painful. A year or so ago she noticed herself getting stout, and suffers pain in abdomen at varying intervals. Has a yellow vaginal discharge, which, on examination proved to be non-specific. This was treated for four weeks, operation in consequence was postponed. Urine specific gravity 1,020, acid, with a trace of albumen.

Abdomen distended by tumour in hypogastric region, it encroaches into right and left inguinal regions, it is dull, firm on palpation, movable, abdominal wall moves freely over its smooth surface, cervix low down in vagina. The mass fills Douglas's pouch.

Operation, October 11.—Under gas and ether the abdomen was opened in the middle line from umbilicus to pubes, a large myoma uteri turned out about the size of a foetal head at full term, peritoneal flaps were dissected down in front and behind, right appendages and ovary being left attached to the uterus. The left ovary was allowed to remain. The neck was severed above the os and within the flaps, the uterine arteries were then caught and tied. A further wedge-shaped piece was cut from the neck to admit the surface above being sewn together by means of three sutures of catgut. The peritoneal flaps were carefully stitched together with catgut, no blood was lost, the pelvis was dry cleaned, the omentum carefully placed, and the abdominal wound united by single rows of silkworm gut sutures. On the ninth day, October 20, stitches were removed, patient had no marked rise of temperature, and her convalescence was uninterrupted. The ovary removed was cystic, the left ovary which remained was normal.

REMOVAL OF MYOMA UTERI BY ABDOMINAL HYSTERECTOMY. By CHARLES RYALL, F.R.C.S. Surgeon to the Cancer Hospital, Brompton, and to the Gordon Hospital for Diseases of the Rectum; Surgeon to Out-Patients, London Lock Hospital.

S. E., aged 48, an unmarried woman, was admitted into the Cancer Hospital on July 18, 1899, and gave the following history :—For the last ten years she has suffered from pain in the abdomen, over the sacrum, and down the thighs and this has been getting worse of late. Palliative treatment had been tried for some considerable time, but without alleviating her symptoms to any great extent, and she was therefore anxious to have any operation performed that would give her the necessary relief.

She was a well-nourished woman, and never had any previous severe illness.

The catamenia were regular, duration about five days, amount lost not great, and always accompanied with pain.

On examination a hard and irregular-shaped tumour could be felt rising out of the pelvis and reaching upwards to a point about midway between the umbilicus and the pubes. *Per vaginam* a hard rounded swelling was found in Douglas's pouch, and appeared to be part of the tumour that was felt in the abdomen. The whole mass was incorporated with the uterus and almost completely fixed in the pelvis.

Abdominal hysterectomy was recommended as the only means of curing the pain, and moreover there was every evidence that the tumour was increasing in size, and frequency of micturition, combined with troublesome constipation, showed that the functions of the bladder and rectum were being interfered with.

Operation, July 28, 1899.—The abdomen was opened by the ordinary median incision, extensive adhesions of the omentum, small intestine, and sigmoid had to be freed before the tumour could be brought into view. After ligating and severing the upper parts of the broad ligaments, turning down a flap from the anterior surface of the uterus, and partly enucleating the tumour in the pouch of Douglas, one was enabled to lift the whole mass out of the pelvis. There was no difficulty then in securing the uterine vessels and cutting through the cervix. The only other things of note in the operation were the enucleation of a small myoma from the cervical stump, and the method adopted in dissecting the posterior flap. Instead of dissecting it from above downwards, a procedure which is not always easily accomplished, it was dissected from below upwards after the cervix had been divided. The operation was finished off in the ordinary way, which has been described so many times, and the patient did not appear to suffer from any great amount of shock.

I saw her daily for a week after operation, and during that time she made rapid progress in recovery, and on the

last day of the week she was taking solid food and appeared to be perfectly well. I saw her again on the twenty-fifth day after operation, and then learned that she had gone on very well up to the twenty-first day and had not given the least cause for anxiety. On the twenty-first day she was seized with sudden and acute pain in the calf of the right leg, and on examination no pulsation could be felt in the posterior tibial artery though it persisted in the dorsalis pedis artery. The following day the pulsation disappeared from the dorsalis pedis and dry gangrene set in. On the third day after the onset of these symptoms she developed aphasia which rapidly became complete. When I saw her on the twenty-fifth day after operation she was unconscious and had lost control of both sphincters. There was marked rigidity of the muscles of the right side of the body, both pupils were equal and dilated, and the left proved to be less active to light than the right. The right leg was undergoing dry gangrene to within two inches of the knee joint. The patient became gradually worse, and died on the twenty-eighth day after operation.

No *post-mortem* examination was made owing to the objection of her relations.

Clinically, one was unable to detect any signs of arterial or cardiac disease, and I am at a loss to explain why she should have developed this trouble. An embolus apparently first lodged in the posterior tibial artery, and then thrombosis extended backwards to the bifurcation of the popliteal and thus implicated the anterior tibial. The cerebral trouble was quite independent of this.

In the discussion on these specimens, Dr. PURCELL said that there was no doubt that Jewesses were not good subjects on which to operate. The late Sir Andrew Clark laid stress on this fact, and used to advise that a Jewess should never be operated on if it could be helped. Dr. Snow had not given any account of the amount of urine passed after the operation ; with all the trouble that he had experienced in dealing with the uterine artery, it was quite

possible that the ureter might have been kinked, and the cause of death might have been uræmic poisoning. In Mr. Ryall's case the method of dissecting the posterior flap was of great interest; but in his own experience there was usually no special difficulty in this step of the operation. He would suggest that perhaps in Mr. Ryall's case also, the cause of death might have been renal.

Dr. MANSELL MOULLIN agreed with Dr. Snow that suture *en masse* was the best method of securing the abdominal wound; but it was still capable of being improved on. There was no object in securing the peritoneum separately; this as well as the skin was quite well secured by the through and through suture; it was advisable, however, to suture the layer of fascia separately, and he thought that this was best done by interrupted catgut sutures. It was a mistake to suppose that buried sutures strengthened the wound; on the contrary, they were a source of weakness. Catgut was therefore eminently suitable, since it became absorbed. It was, as a matter of fact, during the first forty-eight hours that the sutures were most necessary.

Dr. HEYWOOD SMITH did not agree with Dr. Mansell Moullin's views as to the best method of suturing. With one layer of sutures, hernia was formerly a not infrequent complication; but since the introduction of three layers this accident had been of much rarer occurrence. It was not advisable to sew the peritoneum with catgut, because peritoneum was best secured with a fine suture, whilst catgut, to be efficient, must be thick. The best material for the peritoneum was fine silk. For the middle layer, catgut answered very well; and for this purpose it gave much less trouble than silkworm gut. He regarded the three layer method as the typical one for abdominal wounds. With regard to Mr. Ryall's case, he pointed out that in all cases of operation for fibroids there was risk of embolism. But as to the cause of embolism, he thought there were no facts known.

Dr. BEDFORD FENWICK said that they were all agreed that wounded peritoneum united very readily ; so that the old idea that failure of healing in the peritoneum might give an opportunity for suppuration in the wound to extend into the abdominal cavity was a fiction. If they put complete sutures through the peritoneum and abdominal wall, the peritoneal surfaces were sure to unite. It seemed to him a fallacy to provide against a theoretical danger by putting interrupted sutures through the peritoneum and leaving them there, and so introducing an actual danger ; it was much better to employ sutures, which they could remove in seven days. He knew of cases in which there had been peritonitis which seemed to have been due to the buried sutures. True, the peritoneum had a protective action, and might prevent this result ; but in other cases it might not. He thought it probable that the danger of ventral hernia might be diminished by the use of a separate suture for the fascia ; but it ought to be some absorbable material, and should not remain in the wound, thus becoming an irritant ; perhaps the best material was catgut. He had seen such good results from through and through sutures, that he was loth to believe that there was any advantage in the three or four layer method.

Mr. BOWREMAN JESSETT said that until three or four years ago he always used the single layer of sutures ; then he yielded to the fascination of the triple layer method, and met with disaster and disappointment ; he often had to fish out the sutures afterwards with a crochet-hook, even when he had taken the precaution of boiling them immediately before use, because they caused suppuration. He then went back to the old system. The reason of failure in the old plan was the practice of passing the sutures straight through the abdominal walls ; the fascia which retracts beyond the muscle in this way often escaped inclusion. The best results were obtained by picking up each layer carefully in one suture. Mr. Ryall's case was very interesting ; it was curious how these cases of embolism came about. He had

some time ago a case of a lady with a large ovarian cyst ; she did well for three weeks and then got an attack of hemiplegia, from which she was still suffering, though it was twelve months ago. This might also have been due to embolism. Phlegmasia dolens also was common after hysterectomy, but he had not seen a case of embolism of the tibial artery. He did not think it was necessary to form a definite posterior flap, as Mr. Ryall suggested ; at any rate when doing a panhysterectomy.

Dr. INGLIS PARSONS said that eight months ago a patient came to him who had had her ovaries removed at a provincial hospital ; hernia had followed after a few weeks. She was again operated on, but with a like result. Each time the abdominal wall had been closed with a single layer of sutures. He did not think that this was enough in the case of a patient with thin abdominal walls. He cut out the circular cicatrix, then cut down above the original incision, dissected out the layers separately, and sewed up the peritoneum with fine silk, the muscles and fascia with silkworm gut, and the skin with silver wire. There had been no return of the hernia since. Dr. Bedford Fenwick and Dr. Mansell Moullin had said that they objected to buried sutures ; if thick silk was used, the objection was valid, since it was apt to set up irritation ; and for the middle layer he thought that both silk and catgut were unsuitable. With regard to the question of securing the peritoneum, one of his colleagues had a suture abscess some years ago in one of his cases, resulting in infection of the peritoneal cavity and a fatal issue ; and he thought this would not have happened if the peritoneum had been sewn up.

Mr. CHARLES RYALL suggested that in Dr. Snow's case the cause of the fatal result might have been traumatic delirium. In his own case, to which Dr. Snow had referred, the first symptom of trouble was shock, from which, however, she rallied, and there was then nothing to show that the wound was at fault. Then shock again

supervened, and the wound was found gaping. With regard to the method of suturing it was to be remembered that the suturing of the peritoneum did not add to the strength of the abdominal wall; the object of it was to protect the peritoneal cavity from raw surfaces. To suture the abdominal wall in three layers was anatomically correct; and what was anatomically correct could not be surgically wrong.

The PRESIDENT observed that Dr. Snow had broached a subject of great importance to every operator, viz., the hysterical temperament. His case was typical of this condition, and it was one of the most serious that a surgeon could undertake. In such cases a short operation was specially to be aimed at. He thought that the fatal result must be regarded as an instance of sudden death from vascular disturbance. On the question of sutures many battles had been waged, and they were still going on over material and methods. In America and on the continent operators with the widest experience had all adopted the plan of sewing up in three layers; and this seemed to him the most workman-like method. For some years past he had given up the single-layer plan; and on only a few occasions had he to remove a buried suture on account of suppuration. The peritoneum should be closed for the purpose of protecting the bowel. With regard to operations on Jewesses, it was well known that these patients were very liable to glycosuria; and he believed that under these conditions operations were very dangerous. He had no fear of using silk or catgut for buried sutures, as long as it was aseptic; and he could not agree with Drs. Bedford Fenwick, and Mansell Moullin that a rapidly-absorbable suture was a desideratum; on the contrary, he thought that with such sutures they were more likely to get hernia. While agreeing with Mr. Ryall in the use of the triple layer method, he could not quite endorse his generalisation that what was anatomically correct could not be surgically wrong, for he thought that not uncommonly what was anatomically correct might be surgically inadvisable.

Dr. SNOW, in reply, thought that one great objection to the layer-to-layer method was the time it occupied; and this was often an important element in recovery. He agreed with Dr. Bedford Fenwick's remarks on the rapidity of the peritoneal union; in a long operation he had seen the peritoneum show signs of uniting before the operation was finished. But these adhesions were easily ruptured by vomiting, &c.; and Mr. Ryall's case illustrated that point. In reply to Dr. Purcell, uræmia could be excluded with certainty in his case, for the bowels and kidneys acted on the day after the operation.

Dr. PURCELL and Mr. RYALL briefly replied.

Mr. BOWREMAN JESSETT showed, for Dr. A. Duke, (1) a new curette; (2) a prehensile forceps.

A CASE OF TUBERCULOUS PERITONITIS, SIMULATING AN ABDOMINAL TUMOUR, WITH OPERATION, FOLLOWED BY RECOVERY. By ROBERT HUGH HODGSON, M.D., Peckham.

R. F., aged 9, a female twin child, whose twin sister died in a fit, is one of a family of ten. About two years ago her health commenced to fail, she wasted, lost strength and colour, suffered from constipation, and experienced occasional attacks of abdominal pain. When I saw her in March last she was very emaciated, had a hectic, fluctuating temperature ranging between 99 and 102, and a quick feeble pulse. Her appetite was bad and she had a slight cough. Her abdomen was extremely distended, tympanitic and tender to touch, and she suffered from constant abdominal pains. Her bowels were obstinately constipated. Tuberculous peritonitis was diagnosed. By repeated doses of castor oil the bowels were opened, and by opium and hot poultices the pain was much relieved. The improvement in her symptoms was, however, only temporary. After again relieving the bowels and pain I was enabled to feel the outline of a large tumour, globular in shape, and occupying the left lumbar region. I

explained to the parents that although the child was apparently dying from "tuberculous peritonitis" it was just within the bounds of possibility that she had a tumour in her abdomen which was undergoing degenerative change. Wishing to give the child every chance the parents consented to the abdomen being explored. Accordingly ether was administered on May 4, and the abdomen opened in the middle line, with the result that there was an immediate rush out of about a pint and a half of darkish yellow fluid. The parietal peritoneum was thickly covered with yellow tubercles, and the whole of the intestines were matted together into one round mass, which was situated on the left side and covered with tubercles. The liver was much enlarged. The abdomen was first washed out with hot water, and afterwards with water and carbolic acid in the proportion of 1 in 80, leaving as much in the abdomen as it would hold. The abdominal walls, which were scarcely thicker than brown paper, were united with silkworm gut. The wound healed with the exception of the lower end, through which after a fortnight a thin dirty brown fluid commenced to run in small quantities, and which no attempt was made to stop. This discharge continued for four months and then ceased, the lower angle of the wound closing. On the day of operation, and for five days subsequently, the temperature remained subnormal, after which it rose for two days to 101, and then fell to normal, and has remained so to the present time. From the date of the operation the pain in the abdomen ceased until about two months ago, since when, with the return of constipation, periodical attacks of pain occur. They are relieved by purging. The abdominal tumour cannot now be felt, and the liver has resumed its natural size, the abdomen is fairly flat, the temperature is normal, there is no cough and no hectic flush. The child has gained a little flesh and is bright and cheerful. During the last month there has been lenteric diarrhoea, which has now ceased under treatment.

Although the improvement is good all round, I have but little hope of a permanent cure, since the emaciation and disease were so far advanced. I have brought this case forward with the double object of showing how the whole of the intestines may be gathered together into one mass simulating a new growth and also in the hope that although the result is far from what one would wish to see, still it may be some inducement to look with more favour upon carbolic acid in large doses, as the drug to at least hold in check active tubercle. The moot points in this case appear to me to be :—

(1) What caused the arrest of the tuberculous activity, was it the carbolic, the ether, or the admission of air ?

(2) Was the amount of carbolic acid left in the abdomen sufficient to cause poisoning ?

(3) Did the ether counteract the danger of carbolic acid poisoning, and did it intensify the therapeutic action of the carbolic ?

(4) What caused the increased size of the liver ?

(1) I think from one's general knowledge of the use of carbolic acid I am justified in attributing the arrest of tuberculous activity to the action of carbolic intensified by the diffusibility the ether imparted to it. Against the statement that the mere admission of air has produced similar results one must set off the possibility of the anæsthetic used being the germicidal agent and its sufficiency in slight cases. One would not open a tuberculous pleura, admit air, and then seal it up without expecting an empyema.

(2) Roughly estimated, the amount of carbolic acid left in the abdomen was one drachm, which in the circumstances that the child was very emaciated and in *extremis*, was, in my opinion, sufficient to cause poisoning. Bearing in mind that the cooling of the body by ether passes off within two days, I think the continued subnormal temperature was probably due to the carbolic, and not to shock, since little was done to cause shock, and if shock did exist,

it was removed by the warm abdominal washing, and the warm fluid left behind.

(3) The ether by its stimulating power nullified to a certain extent the paralysis which would otherwise have followed the carbolic acid acting upon the nerve centres.

(4) The increased size of the liver I take it was caused directly by the growth of tubercle which could hardly have been reached by a few minutes' interchange of air in the abdominal cavity.

I may add that I saw the child again this morning, and my opinion is now more favourable than it was when I wrote these notes ; the temperature is perfectly normal, all abdominal pains have ceased, the bowels act twice daily, and she is decidedly gaining flesh.

Mr. CHARLES RYALL remarked that the reason of the disappearance of the tuberculous conditions in these cases was not known ; it might be brought about by means of the portal congestion which followed abdominal section. This view had been carried out in practice in the treatment of tuberculosis of the knee-joint, by compression of the vessels of the thigh. He did not think that any antiseptic was much good in the peritoneum, since to kill the bacilli it must also kill the peritoneal cells. The best peritoneal antiseptic was normal salt solution ; the next best was plain water.

Dr. C. H. F. ROUTH said that the opening of the abdomen was enough in many cases of tuberculosis to cure the disease. He would not say that they should be satisfied with opening the abdomen ; but when nothing more could be done, they might still hope for good results. In the same way some cases of cancer were benefited. It was on this principle that tuberculosis was cured by the open-air treatment and by oxygen. It seemed to him a very strange thing to leave a drachm of carbolic acid in the abdomen.

Dr. INGLIS PARSONS thought that they could accept Dr. Hodgson's diagnosis in this case. The use of carbolic acid was interesting, and it did not appear to him likely to

be followed by toxic effects ; for in all cases in which there had been peritonitis they found that after abdominal section there was very little reaction on the part of the peritoneum. With regard to the effect on a tuberculous peritoneum of opening the abdomen, it was interesting to note that Howard Kelly mentioned several cases in which a patient was operated on for tuberculous peritonitis and died some time afterwards from some other cause ; the tubercles were still to be found in the peritoneum, but isolated and encysted ; the tubercle bacilli also were there, but unable to do any harm.

Mr. BOWREMAN JESSETT believed that Dr. Inglis Parsons' explanation of peritoneal immunity was the correct one, otherwise the patient would probably have died, with a drachm of carbolic in her peritoneum. For himself, he hardly cared to use carbolic for his instruments in abdominal operations.

The PRESIDENT said that he could look back to many cases in which he had got quite unexpected credit for cures after opening the abdomen for tuberculosis. The reason for the improvement or the cure was not yet quite satisfactorily explained. Dr. Hodgson's treatment with carbolic was rather heroic ; but they should remember that the peritoneum, of children especially, in cases where there had been tuberculous peritonitis, did really become case-hardened, as Dr. Inglis Parsons had said ; and under those circumstances a small quantity of carbolic acid did not perhaps much matter. A similar induration of the peritoneum was found in the case of diseased appendages.

Dr. HODGSON briefly replied.

ON THE PHYSICO-CHEMICAL CHANGES CONCERNED IN THE PRODUCTION OF VERSION OF THE UTERUS. By JAMES OLIVER, M.D., F.R.S.Edin., F.L.S. Physician to the Hospital for Women, London.

IN treating of the normal position of the uterus, Quain says : " Its upper end is directed upwards and forwards,

the lower downwards and backwards; so that its axis corresponds with that of the inlet of the pelvis and forms an angle or sudden curve with the axis of the vagina which corresponds more nearly with that of the outlet of the cavity." To estimate precisely, and define more accurately, the natural inclination of this organ, is impossible; consequently, it must suffice us to know that the fundus or upper pole which ascends toward the abdominal cavity, should also be directed forwards, and that the cervix or lower pole which projects into the vagina should, to a correlative extent, be directed backwards. Now so long as the integrity, not only of the uterus, but of those tissues on the harmonious relationship of which the maintenance of its rigidity depends, is preserved, the normal position of this organ is not appreciably disturbed by any of the ordinary alterations in the position of the body of the female.

When the bladder or rectum, or both viscera are unduly distended the resulting increased tension and pressure cause the natural inclination of the uterus to become altered, but it is not intended that this organ should, under ordinary circumstances, impose the burthen of its weight upon a neighbour. So too, with regard to the intestines, although portions of the bowel come frequently in contact with the free surface of the uterus, still the latter is not required in the ordinary course of events to aid in supporting the former. Throughout the universe we witness evidence of a cohesive affinity, and it is this agent which no doubt serves to maintain the various organs of the body in position. As the natural direction of the fundus uteri is towards the anterior abdominal wall it is commonly a debatable question whether in any given case the true limit of inclination forward has been exceeded, and the condition should or should not be considered one of anteversion. When, however, the fundus is directed more or less backward it is generally easy to recognise that the inclination of the axis is the reverse of normal, and we are justified

in assuming that the change is due to some abnormal state.

The peritoneum which invests the body of the uterus is extended laterally on both sides from the anterior and posterior surfaces of the organ to the pelvic wall. Included within these folds we find muscular fibres, which are continuous with the superficial muscular layer of the uterus itself; consequently, it is impossible to doubt that the maintenance of the normal inclination of this viscus is in some measure dependent upon the state of integrity of these serous expansions. Some authorities attach much importance to other structures located in the broad ligaments, such as the round ligaments and the ligaments of the ovary, and although these dense fibro-areolar cords do occasionally become sclerosed, yet it is altogether improbable that the position of the uterus is ever materially disturbed by changes occurring in these structures alone.

The neck of the uterus is embraced by, and is structurally continuous with, the vagina, which reaches higher up on the cervix uteri behind than in front, a condition of affairs which, together with the inclination of the axis of the outlet of the pelvis, accounts for the uterus assuming so commonly a retroverted position when it is dragged down by volsellum forceps applied either to the anterior or posterior lip of the cervix. Now the vagina is a distensible and highly elastic tube, and by virtue of this elastic property the force of gravitation is so counterpoised that the uterus is not only maintained at a fairly uniform height in the pelvis, but is enabled to descend and ascend in unison with the respiratory movements. This same elastic property of the vagina is a powerful factor in maintaining the natural inclination of the uterus since it opposes those physico-vital qualities which characterise the uterine tissue proper, and are displayed by that portion of the peritoneum which lines the pelvis.

When we remember that rather more than one-half of the weight of our bodies consists of water, it is impossible

for us to ignore the fact that this compound plays a most important part in the rôle of the organic economy. It is absolutely necessary for the carrying on of all vital phenomena. The consistence of all the soft structures of our bodies, and the maintenance of their well-being depends to a greater or less extent upon the amount of water which physiologically they are capable of retaining. This, as we know, is not however a fixed quantity. Through the medium of the kidneys, skin, lungs, and bowel, loss of water is perpetually taking place, and this loss must be replaced by fresh aqueous solution. Without this interchange the processes of nutrition would rapidly fail. By the agency of water, nutrient materials in a state of solution are carried to every cell of the body, and waste products are in turn eliminated from the system.

During pregnancy and after parturition, the uterus undergoes a great and somewhat rapid variation in its molecular state, and the changes which take place under such circumstances are effected through the agency of water in consequence of the extraordinary diosmotic power possessed by this viscus. When a retroverted uterus harbours a fecundated and developing ovum it tends spontaneously to assume an erect position about the tenth or twelfth week; it may occasionally do so even as early as the sixth week. Now the pregnant uterus is virtually a growing organ, and we know that growth can only take place when cell tension is well maintained, consequently we are justified in assuming that the alteration in its position is in part attributable to an increased turgescence. I may here remark that the uterus which before conception was retroverted is extremely prone to return to this position after delivery.

It is, of course, very evident that the firmness and rigidity of many organic structures depend to some extent upon turgescence. The stalk of a cut flower, for example, soon loses its rigidity and droops in consequence of a diminution in the cell tension brought about by the loss of

water by evaporation ; the cell tension may, however, be restored and the structure may thereby regain its rigidity and display once more its erect propensity if we place the cut end of the stalk in water before the cells have unduly lost the power of absorption. When death ensues water is lost by evaporation, and as no renewal takes place organs which in the living state were firm and elastic become more or less limp and flaccid. In the dead body the uterus is very commonly found overlying Douglas's pouch, with its fundus in contact with the rectum, and so generally in fact is this position displayed when sections are made of frozen bodies that some pathologists have gone so far as to affirm that this retroverted position is the natural one. Clinicians have no hesitation in repudiating this assertion, and will no doubt allow that this pathological phenomenon may be attributed to the loss of water by evaporation and other physico-chemical changes consequent upon death, and is determined by the position of the body, which is invariably dorsal.

Elasticity and compressibility are, however, undoubted properties of the uterus, and the maintenance of the natural inclination of this organ is to a greater or less extent dependent upon the preservation and due exercise of these. The aqueous solution which the uterine tissue contains cannot, we know, be compressed by those forces to which it is subjected, consequently the perpetually compressed state—to which we shall refer later—in which the healthy organ exists is not in any way related to the presence of water, although the compressing agent is more or less decidedly influenced by it.

If over the fundus we incise the peritoneal covering of the uterus between the Fallopian tubes, the wound will soon begin to gape on account of the resiliency of the uterine tissue, and the elasticity of the serous membrane. In its natural state, therefore, the uterine tissue is perpetually more or less compressed, and if it were possible to remove entirely the serous capsule without otherwise

disturbing the vital state of the organ, the latter would forthwith become more bulky, being freed of its compressing agent.

The peritoneum, as every gynæcologist knows full well, is an extensible and highly elastic structure, but we overlook the fact that that portion of it which envelops the uterus, and enters into the formation of the broad ligaments, exists under ordinary circumstances, and at all times, in a state of passive extension. The elasticity of this portion of the peritoneum is constantly being opposed by the resiliency of the structures which it circumscribes. If, in fact, it were possible to remove intact the serous covering from the uterus without disturbing its physico-vital qualities, it would become so contracted that it probably could never again be made to cover the organ; in other words, the peritoneal covering is virtually too small for the uterus, whilst the uterine tissue proper is, at the same time, too bulky for its capsule. Between these two tissues in their natural connection there exists a mutual tension, and the maintenance of the normal inclination of the uterus is in a very high degree dependent upon their harmonious action and reaction.

Mutual tissue-tension is a phenomenon displayed by many organic structures, by the tubular flower-stalk of the dandelion, and, notably, by the leaf-stalk of the rhubarb plant. To demonstrate this phenomenon, take a piece of a fresh leaf-stalk from a rhubarb plant and make both ends rectangular to each other. Remove from this a strip of the epidermal tissue, together with the collenchyma layers, which strengthen it, and it will be observed that the strip becomes forthwith so elastically contracted that it is no longer capable of filling up the gap produced by its removal. This shows that in the natural condition the epidermal and collenchyma layers are passively extended. If we now remove the whole of the epidermis from the piece of stalk it is remarked that the remaining structure which consists chiefly of parenchyma, and very extensible

vascular bundles has become elongated and altogether more bulky. This shows that the elastic pressure of the epidermis compressed and restrained the natural resiliency of the parenchyma. In the case of the uterus it is highly probable that the shape of the organ favours the action of the mutual tissue-tension.

In the organic world it is difficult to find a structure which is circumstanced like the uterus. The hump, however, on the camel's back bears some analogy. It projects stiffly, is composed chiefly of fat (which, by the way, is but feebly elastic) and is invested by an elastic epidermal membrane. As a rule, it is solid and firm, but it becomes limp and soft when the food is insufficient.

Having summarily dealt with those conditions which determine the natural inclination of the uterus, let us attempt to discuss now those changes in state which may cause this organ to lie more or less passively in the pelvis and assume a position which we are accustomed to speak of as one of version.

The uterus is said to be verted when the body assumes a more or less recumbent posture, the cervix at the same time being correlatively displaced in the opposite direction, or, in other words, when the axis of the organ as a whole assumes an inclination which is materially different from that which we recognise as normal. The displacement is specifically designated according to the direction towards which the fundus is deviated, hence we have anteversion, retroversion, right lateral version, and left lateral version.

Retroversion is very commonly noted in association with more or less descent or prolapse of the uterus. Now we are able in some measure, but necessarily very imperfectly, to simulate this pathological state by dragging the cervix down by volsellum forceps, and it is noteworthy that under such circumstances retroversion is very frequently induced, and will persist so long as the traction is maintained. When therefore the elasticity, or in other words the staying and resisting powers of the vaginal canal are more or less

markedly impaired, in consequence of defective assimilation and metabolism, or are antagonised and practically annulled by dragging the cervix down it is observed that version, and especially retroversion, of the uterus is apt to result. The reduction to a greater or less extent of that tissue-tension which exists between the cervix and vagina where they are incorporated, and which is a concomitant of prolapse, aids undoubtedly in bringing about an alteration in the natural inclination of the uterus, but the mere descent of the latter organ it would seem, is sufficient to induce this. Virtually the uterus is suspended in the pelvis between two elastic structures, and in their normal state these two in their action oppose and supplement each other. The peritoneum which envelops the uterus, and enters into the formation of the broad ligaments, is elastic, and existing as it does in a state of passive extension, it exerts constantly a certain amount of pressure upon, and compresses the underlying structures. In this action it is aided by the staying and resisting powers of the vaginal canal; if, however, these become enfeebled, the peritoneum is then so disadvantageously circumstanced that it is rendered practically inert, and it no longer contributes towards maintaining the natural, but favours rather the production of a backward inclination of the uterus.

Turgescence of the uterine tissue proper plays, as has been already remarked, a part in maintaining the natural inclination of the uterus, and it is efficiently preserved so long as the elasticity of the cell walls continues unimpaired, and so long as the aqueous solution in the cells is not unduly diminished, is not reduced beyond what one would term the minimum amount.

Constantly there is a movement of fluid to and from the interior of all living cells, and this diosmotic phenomenon, which depends upon some peculiar property of the cell membrane, is influenced not only by the chemical composition of the cell itself and its contents, but by the character of the liquid which bathes the cells. Normally, the state of

turgescence of the uterine and of all other tissues of the body must and does vary from time to time, seeing that the recurring chemical processes necessary for nutrition, and the affinities concerned in depuration are dependent upon the presence, and are effected by the agency of water. So long, however, as the elasticity of the cell wall and the hydrostatic pressure in the cell itself act and react upon each other harmoniously, so long will turgescence aid in maintaining the natural inclination of the uterus.

Under ordinary circumstances, the walls of the cellular elements of the uterus which are kept perpetually on the stretch, more or less, by internal hydrostatic pressure offer some resistance to filtration, and it is evident that the firmness and rigidity of the organ as a whole are in some measure dependent upon this. If, however, this resisting power should be inhibited, a too rapid filtration from the cells will take place and the organ rendered thus more limp and flaccid will tend to assume that position which the resultant of the forces acting upon it may determine. The suddenness with which apparently version of the uterus occurs in consequence of physical or mental shock may be accounted for in this way. In the vegetable world we find instances in which water is rapidly displaced from the cells of a turgescient tissue as a result of a touch or a shake. In this way we can bring about a relaxation of the cells of the motile organs of *Mimosa pudica*, and cause the leaves to move. The leaves of *Dioncæa muscipula* (Venus' fly-trap) are in like manner responsive to contact or shock. On the inner face of each half of the leaf of this plant are three long fine bristles, and if one of these be touched roughly the two halves of the leaf will approach each other with great rapidity. The shock induces some change in the molecular state of the organic membrane whereby a too rapid filtration takes place, but at present it is impossible to say what may be the nature of this change. Diosmosis is necessarily an obscure and complicated phenomenon, since it depends not only upon the molecular state of the

filtering membrane but upon the attractive powers of the materials located within and circulating outside the cells. The excretion of nectar is an osmotic phenomenon, and Dr. H. P. Wilson (Cambr., Mass., U.S.A.) has shown that this excretion may be arrested and held in abeyance for an indefinite length of time by merely washing the external surface of the nectary with plain water, and that when thus suspended it may be re-established by placing a very small particle of sugar on the washed surface. In this case the exosmotic current is stayed by brushing the external surface of the gland with water, but it is forthwith set in motion again by the attraction of the sugar. On reflection it is very evident that osmosis is a phenomenon which may be readily and seriously disordered. Now the nutritive and depurative processes in our bodies are effected by osmosis, consequently any serious derangement of this phenomenon may cause not only an undue diminution in the amount of water in the cells, but may impair more or less markedly the tone of the cellular elements themselves. In the case of a muscular structure like the uterus atony of its cellular elements means impairment of the compressibility and resiliency of the organ as a whole, impairment, *i.e.*, of two properties which aid materially in preserving that mutual tissue-tension which plays such an important part in maintaining the natural inclination of the uterus. If therefore diosmosis should be badly effected then the physico-vital state of the uterine tissue may be so deranged that the organ is no longer enabled to withstand the influence of adverse forces, but tends to assume that inclination which the resultant of these forces may determine.

The mutual tissue-tension to which we have just referred depends, on the one hand, upon the physico-vital properties which characterise healthy uterine tissue, and on the other upon the manner in which the living perimetrium opposes and responds in turn to the influence of these. The perimetrium is an elastic structure which in its natural connection is passively extended. In enucleating solid and cystic

tumours from the broad ligaments in emptying a uterus distended with menstrual blood in consequence of an imperforate hymen, and in operating upon the female pelvic organs generally we are constantly and forcibly reminded that the peritoneum which covers the uterus and enters into the formation of the broad ligaments is highly elastic. I desire now to draw your attention to the fact that this quality is often diminished and occasionally it is even entirely lost. In the case of certain cysts of the ovary spontaneous rupture occurs when the elasticity of the peritoneal covering and of the fibrous tissue entering into the formation of such morbid growths is completely destroyed. So, too, rupture of the uterus during pregnancy is due to those chemical changes which induce a loss of this same quality. Ruptures taking place from this cause resemble somewhat in the organic world those which take place in the artificial and growing cells formed by the precipitation membrane of Traube. If, for instance, we drop a small quantity of a concentrated solution of chloride of copper into a vessel containing a solution of yellow prussiate of potash a closed precipitation membrane, *i.e.*, an artificial cell, is instantaneously produced on the contact of the two fluids. The wall of this cell is permeable to water, and this is attracted towards the interior by the chloride of copper which has a great affinity for water. The endosmotic current thus induced causes gradually an increase in the size of the cell, and in the internal hydrostatic pressure. As, however, the cell wall is inelastic it becomes more and more attenuated and eventually it ruptures. Forthwith this breach in the wall is repaired by the coming together of the chemical agents, and so long as unused chloride of copper remains the endosmotic current will continue, consequently these cells may, by the repair of successive ruptures, grow to a considerable size. These artificial cells remain intact until the gradually thinned wall can no longer resist the internal pressure ; so, too, in the case of certain cysts of the ovary spontaneous rupture occurs in the same way.

If the elasticity of the perimetrium is greatly impaired or completely destroyed, then that mutual tissue-tension which depends in part upon the preservation of this quality is annihilated. Such an alteration in the physical state of the uterus causes the organ to become limp and flabby, and renders it less able to withstand the influence of gravitation and other antagonistic forces; consequently, it is extremely liable to assume under such circumstances a more or less recumbent position, a position, *i.e.*, of version. The elastic pressure exerted by the uterine tissue keeps the peritoneum of the mesometrium passively extended, and the tension resulting therefrom augments in turn the staying and resisting powers of the vaginal canal. In this way the normal firmness and natural inclination of the uterus are secured. If, however, the harmony of these tensions and pressures is damaged by any alteration in the physico-chemical state of the structures concerned in their production, then the uterus is less able to withstand the action of adverse forces, and will tend in consequence to assume that inclination which the resultant of these may determine.

The discussion on this paper was postponed to a subsequent meeting.

BRITISH GYNÆCOLOGICAL SOCIETY.

THURSDAY, DECEMBER 14, 1899.

H. MACNAUGHTON-JONES, M.D., PRESIDENT IN THE CHAIR.

PRESENT : 67 Fellows and Visitors.

CINEMATOGRAPHIC DEMONSTRATION OF GYNÆCOLOGICAL OPERATIONS. By Dr. E. DOYEN. (Paris).

BEFORE proceeding to the demonstration itself, Dr. Doyen said :—Gentlemen,—Before giving you my ideas on the use of the cinematograph in the teaching of surgery, allow me to express my thanks to the eminent President of the Gynæcological Society, and to all the members, for the great honour they have conferred in electing me an honorary member. I shall never forget that it was in England at last year's meeting of the British Medical Association, that the cinematograph as applied to surgery was first shown. I had a certain dread in showing my English colleagues my first films. I felt that the idea of the application of the cinematograph to the teaching of surgery might appear strange to them, and I feared that they would view it rather as an exhibition without practical interest, or a vain attempt to make use of the ordinary cinematograph otherwise than as a recreation.

The hearty welcome that my colleagues gave to the demonstration in Edinburgh, the public congratulation and encouragements given me by Professor McEwen, Professor Simpson, and Professor Chiene satisfied me that the members of the British Medical Association approved of the innovation. There is, however, yet more to acknow-

ledge. After the cordial welcome of my colleagues at Edinburgh, after the great honour of being elected LLD. of the University, it is once more on English soil that I am officially asked for the first time to give a demonstration of my operative technique as shown by the cinematograph. This century, so rich in great discoveries, will be memorable to the physician of the future as the century of bacteriology and of serum-therapeutics. The surgeon will know it as the century of anæsthesia and of antiseptis, that doubly solid basis of present-day surgery. And in the front rank of the pleiad of men who represent the surgery of the nineteenth century will stand for ever the name of the benefactor of humanity, the father of that antiseptic method without which anæsthesia had been vain. Need I mention by name Lord Lister ?

Initiated in the Listerian method in 1882 in Paris by Lucas-Championnière, practising surgery independently in 1885, my first object was to simplify operative technique and to shorten the duration of major operations which, even at that date, gave a heavy mortality. I set myself to apply to abdominal surgery the established principles of the operative surgery of the extremities as practised by the pre-antiseptic surgeons. My efforts were crowned with success. I have largely transformed surgical instrumentation, suppressed the lengthy and objectless steps of each operation, and by simplifying the technique have shortened their duration. I have thus had the satisfaction of reducing to an almost un hoped-for extent the death-rate of certain operations. The mortality of abdominal hysterectomy, in which my technique has been widely adopted, has fallen from 30 per cent. to 5 per cent., and the operation is completed in a third to a quarter the time.

Craniectomy, by the flap operation, is performed in a few minutes. The duration of vaginal hysterectomy, of nephrectomy, of thyroidectomy seldom exceeds five to ten minutes, and, lastly, the use of my clamp forceps has considerably simplified the arrest of hæmorrhage from

thick or vascular pedicles, and the technique of operations upon the stomach, the intestine, and more recently the gall-bladder.

This technique, gentlemen, which is the result of years of care and study is often so delicate in its details that the best description fails to make it clear. The most careful drawings or photographs from nature give but a feeble idea of the reality they are meant to convey. The cinematograph alone enables us to reproduce new methods and to show them abroad. Surgery is based first of all on the principles of anæsthesia and of antisepsis, which may be learned by all who bring the necessary patience and zeal to the task. The work of the surgeon is most difficult. Each day brings new operative procedures, more and more delicate, and more and more the idea spreads that in the future the most skilful surgeons, the best hand-workers, as the word means, will alone be worthy of the name. The teaching of operative surgery for such operations as cannot be demonstrated on the dead body, has always been much inferior to the teaching of clinical surgery and of surgical pathology. Too few students could follow with profit the details of such operations in the operating theatre. The cinematograph will fill this blank and complete the surgical training we give to the students of the future.

Proceeding then with the demonstration, Dr. Doyen remarked at the outset that as he was addressing surgeons, the demonstration would be more summary and less detailed than if he had been explaining his technique to students. The method followed in showing each operation was by first projecting a certain number of fixed slides showing consecutively the instruments required, and the various steps of the operation one by one, and secondly, following this up by showing the operation in entirety as recorded by the cinematograph.

(1) Fourteen slides showing the steps in an ovariectomy and the details in the use of Doyen's lever-clamp forceps :—

Incision and opening of abdomen.	The lever open.
Incision of cyst.	The forceps closed.
Evacuation of cyst.	The lever opened.
Cyst drawn out.	The lever released.
Examination of pedicle.	Clamping effects of forceps.
Pedicle clamped.	Ligature of pedicle.
Crushing forceps applied.	Section with thermo-cautery.

A complete cinematographic representation of an ovariotomy was then shown.

(2) Twenty-four slides were then shown illustrative of Dr. Doyen's method of *Abdominal Hysterectomy* :—

Operating table in Trendelenburg position.	Section to right of cervix.
Instruments required.	Section to left of cervix.
Further instruments required.	Forceps on uterine arteries.
Abdomen opened, forceps in vagina.	Cervix entirely freed.
Tumour raised with corkscrew.	Right broad ligament sectioned.
Section of left broad ligament.	A complicated case, adhesions.
Neither ligament cut.	Same case.
Both ligaments cut, in order to reach cervix.	Orifice of vagina after cervix was cut.
Cervix seen through opened vagina.	Suture of peritoneum begun.
Incision of posterior <i>cul-de-sac</i> .	Suture of peritoneum completed.
Cervix seized by tenaculum.	Peritoneum closed, simple case.
Cervix drawn up.	Peritoneum closed, complicated case.

Cinematographic reproductions of three abdominal hysterectomies were then shown.

The first, taken December 8, 1899, by artificial light.

The second, a case of multiple fibroids with adhesions.

The third, showing the suture of the peritoneum completed ; all therefore showing the same general method of operating applied both to simple and to complicated cases.

(3) Thirty-eight fixed slides were then shown illustrating the technique in *Vaginal Hysterectomy* :—

Operating table, special leg pieces.	Extraction of left appendages.
Instruments required.	Forceps on left broad ligament.
Further instruments required.	Drawing of same step.
Drawing of relations of uterus.	Section of left broad ligament.
Cervix drawn down.	Same from photograph.
Incision posterior cul-de-sac.	Forceps on right broad ligament.
Scissors opening Douglas' pouch.	Section of right broad ligament.
Exploration with finger.	Toilet of the peritoneum.
Incision of anterior cul-de-sac.	Forceps left on broad ligaments.
Drawing of relations of uterus at this stage.	Left broad ligament clamped.
Cervix drawn down.	Right broad ligament clamped.
Isolation of bladder.	Ligature.
Bladder pushed aside with finger.	Toilet of peritoneum with compress.
Diagram of this stage.	Aspect of vulva after operation.
Right broad ligament clamped.	Hysterectomy for fibroid.
Left broad ligament clamped.	Extraction of large fibroid.
Anterior median section of cervix.	V-shaped incision.
Opening of anterior peritoneal cul-de-sac.	Uterus drawn out at vulva.
Extraction of uterus.	Extraction of a cyst above uterus.

Four vaginal hysterectomies were then shown as they had been recorded by the cinematograph, showing the possibility of demonstrating to hundreds what half a dozen could not see so well in an operating theatre. After the gynæcological demonstration, Dr. Doyen showed, at the request of the President, a cinematograph of a nephrectomy, and excision of a goitre. In conclusion, Dr. Doyen thanked the members for their courtesy and attention, and begged to assure them of the sympathy of French scientific men for their English brethren and for the English nation. Dr. Doyen's lecture on the subject will be found at p. 579.

Dr. C. H. F. ROUTH, who spoke in French, said :—*Monsieur le Président et mes confrères.*—C'est un privilège qui m'a été conféré de présenter nos remerciements bien sincères et bien mérités à l'illustre professeur, M. Doyen, qui est venu nous voir de la France pour nous charmer avec une lecture illustrée par le cinématograph sur les opérations gynécologiques, pratiquées par lui-même à Paris et autre part. De faire cette traversée à cette saison, n'est pas très

agréable en hiver, surtout lorsque le temps est aussi orageux qu'il l'a été dernièrement. Mais l'amour de la science l'a inspiré à faire ce voyage, et ce soir nous avons eu un très grand plaisir, une instruction parfaite, que nous n'oublierons jamais. Une instruction nouvelle, et qui, avec la lanterne magique, nous a permis à voir toutes ces opérations comme si nous avions les personnes elles-mêmes devant nous. C'est donc un très grand privilège d'avoir non seulement entendu cette superbe lecture, mais de voir M. Doyen opérer devant nous, et suivre par la photographie chaque mouvement de ces mains agissant avec tant d'aise et si exactement. En plus vous savez tous que M. Doyen est un opérateur très distingué parmi même tous les maîtres de la gynécologie chirurgicale. A Paris il est reconnu comme chef dans son art, mais le nom de Doyen est connu partout aussi. La France entière lui fait honneur dans les premières places. Allez où vous voulez, en Angleterre, en Amérique, en Allemagne, en Russie, en Asie, aux Indes, en Afrique, même dans les parties du monde les plus éloignées, comme l'Australie, il est connu, honoré, et apprécié. C'est un citoyen du monde tout entier, et un des plus fameux chirurgiens. Ce que j'ai remarqué dans ces illustrations, c'était la rapidité avec laquelle M. Doyen paraissait opérer. Ensuite chaque instrument préparé, arrivé au moment exacte, point de retard, tout à temps, et succès complet de l'opération. Son aide-de-camp à son côté préparé à assister, la nurse à sa place toujours juste ; et le chloroformiste marquant chaque mouvement de la malade avec exactitude ; on pouvait partout voir que tout était arrangé en ligne, en un mot que M. Doyen était un parfait opérateur. Nous avons, donc, bien raison de remercier M. Doyen à tout cœur. Nous éprouvons un sentiment de gratitude parceque nous avons entendu une lecture des plus charmantes, et qui nous a enseigné beaucoup. Un autre sentiment c'est celui d'*admiration* d'un chirurgien si célèbre. Au nom donc de notre distingué Président, et de celui de chacun parmi nous, nous désirons publiquement le remercier avec le plus grand

empressement de reconnaissance et de ravissement, satisfaits qu'il nous a fait grand honneur en venant parmi nous, et que nous avons écouté et apprécié sa lecture avec le plus grand plaisir.

Mr. SPANTON, in seconding the vote of thanks to Dr. Doyen, observed that one of the pleasantest features of scientific life is the welcome accorded to foreign scientists ; and on this occasion the society might deem itself fortunate in having so distinguished a surgeon as Dr. Doyen among them. The exceedingly beautiful and brilliant cinematographical representations had been so well described by Dr. Doyen that it was quite easy to follow every step in the various operations shown ; but he thought they ought to bear in mind that an operation so shown and described by one surgeon may be a very different matter from the same operation performed by another surgeon. Dr. Doyen had initiated a new mode of demonstration which had a great future before it ; and Mr. Spanton felt that he was expressing the feeling of all present in saying that the Fellows were greatly indebted to Dr. Doyen for his delightful address, to which everyone had listened with the keenest interest, and in the name of the provincial Fellows more especially, he seconded with the utmost pleasure the vote of thanks so admirably proposed by Dr. Routh.

Dr. GODSON said :—"May I be permitted as a past President to say a few words to express my accord with all that has fallen from the lips of Dr. Routh and Mr. Spanton, and my sense of the deep obligation our society is under to our distinguished Honorary Fellow for having come over from Paris to give us such a pleasing demonstration. To all of us Dr. Doyen has long been known by repute as the king of hysterectomists, and many of us have longed for the opportunity to see him operate. Thanks to the realistic character of the living pictures which he has shown us this evening, I feel sure there is not one of us who will go away this evening without feeling that he *has* been present at Dr. Doyen's operations, that he can testify

to his extraordinary dexterity and skill from what he has himself witnessed, and that he has learnt some useful lessons. I am glad of this opportunity of personally thanking Dr. Doyen for his kindness."

The PRESIDENT, in conveying the vote of thanks to Dr. Doyen for his most interesting demonstration, said that those who had seen it must remember that these operative methods had not been quickly achieved, but had been arrived at by a true evolutionary process in the progress of gynæcology within the last few years. He pointed this out in the various modifications of operative procedure in abdominal and vaginal hysterectomy in which Dr. Doyen himself had played a considerable part. It was one thing, Dr. Doyen performing the operations as he had demonstrated them, it was another that those who were unacquainted with such procedures should go away and fancy they were as simple as they appeared in his hands. If they tried to put this belief into practical effect they would find themselves in a very awkward position. Dr. Doyen was not only a distinguished gynæcologist, but he was also one of the most brilliant of French general surgeons, and the Society was proud of the fact that he had been for some time one of its Fellows. On its behalf he tendered to him the warmest thanks for the brilliant demonstration he had given that evening, and for the trouble and pains he had taken in bringing from so great a distance all the necessary apparatus, as also for the special films which he had prepared to show to the Society.

BRITISH GYNÆCOLOGICAL SOCIETY.

THURSDAY, JANUARY 11, 1900.

DR. MACNAUGHTON-JONES, PRESIDENT, IN THE CHAIR.

PRESENT : 33 Fellows and Visitors.

ANNUAL MEETING.

Treasurer's Report.

Dr. MANSELL MOULLIN presented the Treasurer's Report for the year 1899.

He congratulated the Society on the list of Fellows having been well maintained, the subscriptions amounting to £407, £7 less only than the preceding year, which was the highest recorded.

The proceeds derived from advertisements in the Society's Journal again showed a slight falling off, and amounted to the small sum of £23 only. He hoped that now the work of the editorial staff had been divided, and one of the members appointed to take this department under his especial charge, the income derived from this source would in the future be substantially increased, and form an important item in the balance-sheet.

The cost of the Journal and printing of notices, &c., amounted to £247 12s., about £3 less than the year previous. The other items of expenditure did not call for comment.

The balance at the end of the year was £203 13s., and on the right side, being about £15 better than that brought forward from 1898.

The account had been audited by Dr. C. H. Bennett.

The British Gynaecological Society.

Dr. RECEIPTS AND EXPENDITURE FOR THE YEAR ENDING DECEMBER 31, 1899.				Cr.			
	£	s.	d.		£	s.	d.
To Balance brought forward December 31, 1898	...	187	15 6	By Cost of Journal, Notices of Meetings, &c.	...	247	12 4
„ Fellows' Subscriptions	...	...	407 7 0	„ Rent and Attendance	...	...	54 19 6
„ Advertisements in Journal	...	...	23 9 11	„ Honorarium to Editors	...	...	52 10 0
„ Dividends on Investments	...	...	10 12 8	„ Reporting and Sub-Editing	...	...	28 7 0
„ Interest on Deposit at Bank	...	...	2 4 3	„ Typing...	...	...	10 10 0
				„ Illustrations, &c.	...	£3	4 4
				„ Illuminated Address to Dr. Mansell Moullin	6	6	0
					—	9	10 4
				„ Hire of Microscopes	...	...	1 9 0
				„ Refreshments	...	...	9 9 0
				„ Bank Charges	...	...	0 11 0
				„ Postage, Secretaries and Treasurer	...	...	12 18 0
				„ Balance at Bank	...	...	185 16 2
				„ „ in Hand	...	...	17 17 0
							£631 9 4

I hereby certify that I have examined the above account with the counterfoil receipt books and vouchers in connection therewith, and find it to be correct. I also certify that the Society holds the following securities: £270 Grand Trunk Railway 4 per cent. Debenture Stock, £5 Caledonian Railway 4 per cent. Preference Stock, and £100 on deposit with the London and County Banking Company, all in the Treasurer's possession.

C. H. BENNETT, *Auditor.*

January 6th, 1900.

Mr. E. STANMORE BISHOP moved the adoption of the Treasurer's Report and a cordial vote of thanks to the Treasurer. He said that from the point of view of the provincial Fellows the British Gynæcological Society appeared to be the best and most comfortable Society in London. It was satisfactory to find that the finances were in such an excellent condition.

Dr. HERBERT SNOW seconded the motion, saying that the Society owed Dr. Mansell Moullin a debt of gratitude for his important services. They would have to look far for another Treasurer whose heart was so much in his work, and who was so skilful in his accounts.

The vote was carried unanimously.

Vote of Thanks to the Retiring Officers.

Dr. HEYWOOD SMITH moved that a cordial vote of thanks be passed to the retiring officers for their great and untiring services. He referred especially to the President, Dr. Macnaughton-Jones, in whom the Society had shown its confidence by electing him a second year to fill the chair, and whom he characterised as a model President—courteous, hospitable, and most able in the discharge of his duties. He also specially mentioned the good work of the retiring Secretary, Dr. G. E. Keith.

The vote was seconded by Dr. DOLAN, of Halifax, and carried unanimously.

Owing to the unavoidable absence of Dr. Schacht, the Editor's report was postponed to the next meeting.

Election of Officers and Council for 1900.

The Scrutineers, Dr. HEBERT and Mr. RYALL announced that the officers and council elected for 1900 were as follows :—

Hon. President.—R. Barnes, M.D., F.R.C.P., London.

President.—W. J. Smyly, M.D., F.R.C.S.I., Dublin.

Vice-Presidents.—W. Armstrong, M.R.C.S., Buxton ; Clement Godson, M.D., M.R.C.P., London ; R. H. Hodgson, M.D., London ; F. Bowreman Jessett, F.R.C.S., London ; Skene Keith, M.B., F.R.C.S.Ed., London ; Professor L. Landau, M.D., Berlin ; J. Macpherson Lawrie, M.D., Weymouth ; J. J. Macan, M.D., London ; R. Milne Murray, M.D., Edinburgh ; James Oliver, M.A., M.D., London ; Professor A. Pinard, M.D., Paris ; R. D. Purefoy, M.D., Dublin.

Treasurer.—J. A. Mansell Moullin, M.B., M.A., London.

Council.—W. Alexander, M.D., F.R.C.S., Liverpool ; W. H. Bourke, M.D., London ; Professor Murdoch Cameron, M.D., Glasgow ; John Campbell, M.A., M.D., F.R.C.S., Belfast ; G. Roe Carter, M.R.C.P.I., London ; John H. Dauber, M.B., London ; T. Eastes, M.D., F.R.C.S., Folkestone ; J. Furneaux Jordan, F.R.C.S., Birmingham ; George E. Keith, M.B., London ; H. Macnaughton-Jones, M.D., F.R.C.S.I., London ; T. Morton, M.D., London ; W. H. Newnham, M.B., Clifton ; J. Inglis Parsons, M.D., M.R.C.P., London ; Professor A. W. Mayo Robson, F.R.C.S., Leeds ; F. W. Ramsay, M.D., Bournemouth ; C. H. F. Routh, M.D., London ; F. F. Schacht, M.D., B.A., London ; Professor W. Japp Sinclair, M.D., Manchester ; W. Slimon, M.D., London ; Heywood Smith, M.D., London ; R. T. Smith, M.D., London ; J. W. Taylor, F.R.C.S., Birmingham ; W. Travers, M.D., F.R.C.S., London.

Editors of the Journal.—J. J. Macan, M.D., M.A., London ; Arthur E. Giles, M.D., B.Sc., London ; H. Macnaughton-Jones, Jun., M.B., London.

Hon. Secretaries.—Arthur E. Giles, M.D., B.Sc., London ; Charles Ryall, F.R.C.S., London.

Trustees of the Property of the Society.—G. Granville Bantock, M.D. ; Fancourt Barnes, M.D., F.R.S.E. ; Clement Godson, M.D., M.R.C.P.

The retiring President, Dr. MACNAUGHTON-JONES, delivered his Valedictory Address on "The Correlation between Sexual Function, Insanity, and Crime."

THE CORRELATION OF SEXUAL FUNCTION WITH
INSANITY AND CRIME.

IT is customary for the outgoing President to make a few observations on some topic of gynæcological interest before leaving the Chair. I am influenced in the selection of the subject I am about to bring before you by the feeling that the operative side of gynæcology has been so frequently before us of late, that we may well divert our attention to a brief consideration of a gynæcological matter of interest which has nothing to say to operative methods and technique. I refer to the correlation existing between the discharge of sexual function in women, mental alienation, and criminal acts, as also to the bearings of gynæcological knowledge on a few important questions in forensic medicine. Here I must premise that our knowledge of the phenomena that correlate the functional activity or abeyance of action of the female sexual organs, with either transitory or permanent psychical consequences, especially those of a morbid nature, is not sufficiently definite to enable us to draw very accurate conclusions, or to formulate precise axioms, on which we can found principles of practice. On the other hand, experiences have been accumulating which offer most valuable suggestions in regard to the attitude which has to be taken to women at certain periods of their active sexual life, and which also help us by throwing a side-light on the many reflected nervous disturbances in organs remote from the sexual centre.

We may thus, not without profit, reflect on these points. How far does the process of menstruation, including in that term the physiological changes that take place in the ovaries and Fallopian tubes, as well as those which, either associated with, or apart from these, occur in the uterus, affect a woman, by originating morbid impulses in the various groups of her pelvic nerves which find their response in reflected neuroses in other organs, and thus influence the coherence and stability of her mental acts?

Or again, in what directions, and to what extent, does the normal fulfilment of ovulation with menstruation develop for the time being erotic impulses, encourage the state of neurosis generally, or so lower both the psychical and physical inhibitory control as to lead to a hyper-exaltation of the nervous system generally, with increased susceptibility to slight irritations, from whatever source they may arise, and a weakened will control that permits of distorted mental visions and erratic moral acts, vulgarly called crimes, that the woman is helpless to evade or to subdue ?

In order to see how far this is true, we have to inquire whether there be evidence that menstruation, both normal and abnormal, does so influence the woman, and under what condition it is most likely so to do. The second division of the subject brings us to a very different question, and that is, how far disease of the sexual organs in women is correlated with symptoms of alienation from slight interferences with their mental equilibrium to more profound disturbances such as melancholia, dementia, or mania ?

This investigation naturally leads to the further inquiry, how far removal of the diseased organs by operation is salutary or otherwise to the woman, and to what extent the operation in itself may mitigate or increase the mental trouble. There are incidental matters connected with anomalies in the formation of the genitalia in women which have a bearing both on gynæcology and psychology, and which have also to be considered in looking at a case from the point of view of a student of forensic medicine. Lastly, there are a few questions of grave import in the elucidation of criminal acts, in the fixing of guilt, or in the protection of the innocent.

Here, again, gynæcologists are brought into close touch with medico-jurists, and the responsibility is a grave one, for there are certain pathological points that the expert gynæcologist is the most fitting person to give a decisive opinion upon.

Before speaking on the questions to which I have referred,

there are, it is necessary to remind you, two lines of thought which we should follow in approaching the question of sexual function in the rôle of insanity or crime. In the first place, we now know the intensity of the physiological function discharged not only by the ovaries, but by the Fallopian tubes and uterus, before a menstrual act is completed.

In healthy women there is a cycle of changes, in the round of which we have a series of nutritive processes, elaborated through the healthful interchange of function on the side of the circulatory current on the one hand, and the tissues and nerve-elements on the other. These processes cause alterations in the circulation of the Fallopian tubes, and the quantity of blood that they contain, the extraordinary changes which take place during ovulation in the ovary, resulting not only in the maturation and bursting of the follicle, but in a general enlargement of the organ and increase in the size of its blood-vessels. These phenomena are associated with, and followed by, equally marked changes in the uterine endometrium, and, in fact, in the entire uterus. All these alterations occur with a periodicity, and such slight outward evidences of their progress and completion, that there is no other physiological process of equal magnitude attended by such important pathological changes as those of ovulation, and yet so slight an apparent constitutional systemic disturbance.

Also we must remember that ovulation occurs independently of menstruation, and *vice versa*, and that even rhythmical menstruation may occur without ovulation. Pflüger adopts the theory of a dynamic equilibrium of all organs, from which it follows that the ovaries carry a definite number of stimuli to the central nervous system. At any rate, it is certain that the process of ovulation may go on quite independently of menstruation, and that, in fact, a period of about two days generally intervenes between the bursting of a follicle and the latter.

During all these changes in the genitalia there is a co-existing excitation of the ovarian nerve, causing reflex

excitations in the uterine arteries, and, as Rohrig says, such ganglionic and nerve excitations proceed through duly provided paths.¹

Experiments have shown how important is the effect of the secretion of the ovarian gland on the entire economy, and its normal metabolism. It would seem from the experiments of Curatullo and Tarulli,² that, if it be suppressed, the elimination of phosphorus is diminished, as also the respiratory changes are seriously influenced, while, owing possibly to a faulty metabolism, the body weight is increased. How great an effect the ovaries must have on metabolic phenomena, is, perhaps, best shown by the cure of osteo-malacia by oöphorectomy, an affection which Fehling has attributed to exalted ovarian functional activity and consequent reflex effects on the vaso-dilators and constrictors of the medulla.³ The disease is, according to him, a reflex tropho-neurosis of the skeleton, having its focus of reflection in the ovary. Schauta and Mary Dixon Jones⁴ have also recorded cases of cure of osteo-malacia by removing the ovaries, and the physiological effects of the constant pouring into the system of this secretion, is, according to Fehling, increased oxidation of organic phosphorised bodies, as well as hydrates of carbon and of fats. If, therefore, the ovaries be removed, or if their function be in abeyance, organic phosphorus is retained, and there is an increase in the calcareous salts in the skeleton. To follow up the various bearings of these physiological effects of ovulation, and the ovarian secretion, either through undue activity or diminution in quantity, would in itself occupy all the time at my disposal. Even the little know-

¹ Paul Strassman on Ovulation, *Archiv f. Gynäk.*, Bd. 52, H. i., 1896. See summary by J. W. Taylor and Fredk. Edge, *BRITISH GYNÆCOLOGICAL JOURNAL*, p. 585, vol. xii.

² *Annali di Ostetricia e Ginecologia*, October, 1896.

³ *BRITISH GYNÆCOLOGICAL JOURNAL*, February, 1897.

⁴ "Oöphorectomy in Diseases of the Nervous System," by Mary Dixon Jones. Brooklyn, N.Y.

ledge we possess of the powerful effects of the unstable phosphorus compounds of the protagon and lecithin series on the metabolism throughout the entire body, but more especially on cerebral, cerebro-spinal, and sexual impulses and excitations, is sufficient to indicate how great must be the influence of a secretion like that of the ovary on the entire nervous system, from the parts involved in the excitation of lower and higher reflexes, to those portions of the brain cortex in its anterior lobes, which have, as Clouston says, "mentalisation as their function, and which are unquestionably the examples of the highest evolution of organised matter to be found in nature, the fullest of hereditary qualities, the most powerful, yet the most unstable, and by far the most physiologically valuable, part of man—the vehicle of the goodness of the saint and the badness of the criminal." Curious fact for reflection, that here, as Hinton long since pointed out, where all this evolution of thought and will exists, there is no textural scaffolding, instability of structure having for its counterpart instability of organic material, and ever fleeting, changing, and where mystic mentalisation acknowledges no definite or stable scheme for its elaboration of the mandates that it issues.

Also worthy of reflexion is the fact, that while in the organs endowed with the highest vitality for sexual function and in the parts concerned in generation and the propagation of the species, we find this instability of organic constitution in the male and female secretions, so do we find the same organic instability in the constitution of the highest centres in which reside thought and will.

"There is no doubt," says Claye Shaw,⁵ "that the sexual is an innate faculty of the brain, stronger in some than in others, and one whose existence is possible without any correspondence of external organs." If this be true, then how much of sexual crime may have its origin in defective or abnormal mental organisation ?

⁵ "On Insanity with Sexual Complications," by T. Claye Shaw, M.D., *St. Bartholomew's Hospital Reports*, vol. xxii.

This brings us to the recognition of all that mass of work which has been done of recent years, and which has served to prove that physical configuration, deviations from the normal physical type, evidences of defective evolution in the growing youth, combined with the legion of hereditary transmissions in which we have defective evolution, physical and mental, exist in one direction, while concurrently there appears to be a hyper-development of certain traits and configurations in the other.

If the researches of the school of Lombroso and his workers be true, and that physical configuration, not only in the higher centres of nerve structure, but in correlated physical deviations from the normal type, are indications of perversion in the moral and mental attributes of the person exhibiting them, how likely is it to be equally true that anomalies in development, and structural strayings from the normal type, as well as pathological changes occurring in the sexual organs of a woman (organs from which emanate impulses and excitations, stirring the deepest depths of her moral nature), have a direct relationship to those motives and actions which we so flippantly embrace under the head of "criminal." If one of our duties as gynæcologists be to study the correlations that exist between the correct discharge of functions on the part of women's sexual organs, and the various morbid impulses set in motion, both physical and mental, arising from congenital or acquired histological and pathological changes in her sexual organism, including the many paths of sexual expression and impression involved by these, then, surely, gynæcologists are brought into the closest relationship with the springs of action which must throw light on criminal motives and criminal deeds.

"If," says Clouston,⁶ "we take the twelve years between thirteen and twenty-five as the average period of adolescence, it is in the latter six that most criminals develop into

⁶ "The Developmental Aspects of Criminal Anthropology," by T. S. Clouston, M.D. (p. 221).

that condition. The maximum of criminality falls after twenty-five. By far the greater part of the habitual criminals become so before the moral inhibitory faculties have attained full physiological perfection." And he goes on to say, "There is one kind of temptation then strongest, and these are connected with the sexual nusus." It is at this age of life, as he insists, that criminals become so, while there is lack of development in their cerebral qualities, their intellectual, and their reasoning powers. This deficiency is associated in those centres, where, while in their highest form of development, we have instability in function and an apparent lack of textural homogeneity, there is still that mystic yet harmonious union of mental impulse with moral inhibition,

"Each with each in turn blending,
Each on each in turn depending,"

that marks the moral and mental stability of the man or woman.

I have to abandon all idea of statistics in an address like this, and must be satisfied with referring to certain proved and established facts which bear on the relationship that exists between anomalies of development and pathological changes in the sexual organs of women, and perverted mental and moral impulses.

In the first place, we find such minor troubles present in a large proportion of women who have pathological changes in the uterus or adnexa, associated or not with congenital irregularities or deformities in conformation, as aggravated headache, sense of distension in the head, interferences with memory, facial neuralgia, migraine, ocular and laryngeal, with aural vertigo and tinnitus, symptoms of hyperæsthesia or anæsthesia of the extremities, spinal irritation, true hysteria, insomnia, anosmia or perversions of smell, general neurasthenic conditions as agorophobia, œsophageal spasm, gastralgia, and such a neurosis of the coccygeal nerves as painful sitting. Disturbances of the pneumo-gastric and splanchnic nerves are shown by gastralgia, with various

dyspeptic symptoms, while the disturbance of the nerve control of cardiac rhythm finds its expression in intermittent or exaggerated action of the heart and dyspnœa. Such conditions we may class under the general head of visceral and various reflected neuroses, which owe their origin to perverted impulses starting from abnormal or diseased states of the genital organs.

Graver consequences are found in epilepsy and hysterio-epilepsy, in melancholia, suicidal insanity, and dementia. Picqué found a proportion of 88 per cent. of gynæcological affections amongst the insane, and others have found them in even higher proportion than this. He arranged his statistics from 66 cases, according as the disease of the brain developed contemporaneously with that of the womb, those with serious genital affections, where operation had but a comparative success, and those whom operation benefited, hastening their recovery. There was definite cure in eleven cases.

We can, with A. T. Hobbs, hardly doubt that constant irritation of the lower nerve centres, incidental to local disease, must react upon the higher centres, and the effects recorded by several observers have to be given due weight in the consideration of the question as to whether insanity has been cured by the ovarian secretion. I have had some interesting evidence from Christopher Martin in the same direction, and Arthur Wilcox has treated cases of insanity by the administration of ovarian extracts. In cases of suppressed menstruation, in which this was given, distinct recovery took place from such conditions as melancholia and mania. It was not so successful in epilepsy. Jacobs of Brussels has reported such cases, and Hobbs further found that one-sixth of the females in the Ontario Asylum suffered from diseases of the generative organs. Of 110 cases operated upon, 65 were either completely restored (36) or improved by operation (29), and the cases published by Holmes of Chatham, Ontario, Burgess of the Protestant Hospital for the Insane at Montreal, and

many other writers, establish the fact of the correlation that exists between diseases of the pelvic viscera in women and insanity. If we look into the nature of the affection most likely to produce mental disturbance, we find it most common in disorders of menstruation, which of course may have as their cause various pathological conditions. With amenorrhœa and dysmenorrhœa we frequently find abnormal configuration of the uterus and affections of the ovaries and Fallopian tubes. The affection of the ovarian nerves which Mary Dixon Jones has so accurately described as "gyroma," she has demonstrated to be present in many cases of epilepsy, and the removal of the diseased ovaries effected a cure in several cases, not only of epilepsy but of osteo-malacia. There are instances on record in which tubercle, carcinoma, and endothelioma were present in the removed organs. While time does not allow any lengthy reference to a record of cases, the names of the writers are sufficient guarantee in themselves of the reliability of their facts. They have shown that insanity and ovarian disease not only frequently exist side by side, but that removal of the offending organ relieves the mental condition.

Boldt, Felding, Goodell, Beatty, T. G. Thomas, Marion Sims, and Lawson Tait, were amongst the earliest workers in this field. Still, the difficulty exists of establishing the relationship of cause and effect.

Kraft Ebbing⁷ has entered into a full investigation of the medico-legal relations of disordered menstruation, and he lays down the propositions that in any medico-legal investigation, not only should the mental condition of the woman during her menstrual period be closely investigated and the concurrency of menstruation with the act imputed be noted, but the previous history of her mental attitude during menstruation should be inquired into, and if it be shown that the catamenia have, as a rule, a decided effect on the ideation of the woman, or that the catamenial epoch be

⁷ BRITISH GYNÆCOLOGICAL JOURNAL, May, 1898.

associated with mental disturbance and acts of an impulsive character, these facts should be taken into consideration as extenuating circumstances or as proofs of irresponsibility. All evidence goes to prove that the appearance of the catamenia has, in a large number of the mentally afflicted, an important effect on their condition. This, of course, is more manifest in the disorders of the menopause, in which nervous excitations and psychic disturbances, with various hystero-neuroses, occur ; and we know that, in addition to the ordinary histological changes in the ovaries and Fallopian tubes which take place at the climacteric, there are also at this period frequent pathological changes both in the adnexa and the uterus.

A most valuable paper on this subject, on "Insanity with Sexual Complications," has been written by Claye Shaw, and is well worth perusal by every gynæcologist.⁸ He rightly dwells on the dual nature of sexual delusions—those that are purely mental, without relation to the sexual organs, and those which have their origin in the latter. He also points out how, even though there be a correlation between the insanity and the sexual centres of the cord, how dangerous it may be at certain times to excite further reflex activity and stimulate those centres. There may be, he says, uterine or ovarian disease without insanity, or a sexual form of insanity without disease of the genitalia, or, thirdly, insanity may exist and no sexual delusions. The great difficulty lies in establishing sexual disorder as the cause, and the insanity as its effect. It is clear that the mere fact of sexual acts or delusions being present is totally insufficient to do this, and the whole of Claye Shaw's arguments go to prove how difficult, if not well-nigh impossible, it is to establish such causal relationship. Referring to a case in which there were recurrent exacerbations of insanity during the catamenia, the patient being rational on most subjects in the intervals, though of an erotic nature, he says :—"I think

⁸ *Bartholomew's Hospital Reports*, vol. xxii.

that the operation of oöphorectomy would have much relieved her symptoms, at any rate the violent ones ; but of this I could not be sufficiently sure to be able to recommend it. . . . In an acute stage of violent insanity, anything like a serious operation is out of the question, and there is always the probability of acute symptoms coming on after an operation, preventing the rest which is so indispensable." I think that this is just such a case in which an examination in the middle of the interval might be justifiable, and if diseased adnexa were found, oöphorectomy might be performed ; not otherwise. Seeing the mass of intellectually sound women who suffer from disease of the sexual organs, I think Claye Shaw's conclusion, that sexual or uterine and ovarian insanity is by no means common, is a correct one ; but, on the other hand, this does not invalidate the soundness of the proposition, that in a differential diagnosis of insanity in women the presence of disease of their sexual organs has to be carefully considered as a primal or sustaining cause of the mental condition.

The expediency or justification for the examination of any insane woman will depend upon the answer to the question, not whether her insanity be sexual or otherwise, but if the assertion be true that the primary cause of the alienation may rest in a pelvic disorder, which it is the duty of those who have her in charge to discover. Dr. Claye Shaw speaks highly of the effect of wet cupping over the loins in cases of epileptiform insanity at the time of the catamenia. It has the advantage of directing the attention of the patient away from and not to her sexual organs.

Climacteric insanity occurs both in men and women, but, as Clouston has shown by his statistics, in a much larger proportion of women, 196 to 32 out of 228 cases. The ten years from forty to fifty are the ones he regards as most favourable to the development of the insanity. It is, he says, a sub-acute psychosis, as mania is not nearly so common as melancholia, and suicidal impulse occurred in fully 50 per cent. of the cases, an important practical point being

that such suicidal impulse is difficult to prognose so far as the intensity of the suicidal desire, and that such patients have to be always surrounded by every care and precaution against the impulse.

It is interesting to note the changes that occur in senile ovaries when alluding to that form of insanity which Clouston calls ovarian, which occurs in old maids, the combined effects of an unprepossessing appearance, with a too great devotion to religious exercises, "severely virtuous in thought, word, and deed," in whom nature, just before or after the climacteric, takes revenge for too absolute a repression of all the manifestations of sex.

Otroschkevitch has shown that in old age the epithelial covering disappears from the surface of the ovaries, there is desiccation of mature and wholesale degeneration of the primordial follicles, attended by hyaline degeneration of the arteries and the fibrous tissue, and finally fatty degeneration of the cellular tissue. Here we must have a corresponding decrease in the ovarian secretion.

Here is a case in point. A lady, unmarried, and passing through the climacteric, was brought to me for the removal of a comparatively small uterine polypus. For some time her manner had altered towards her relatives, and she was more taciturn and morose, but there had been no direct evidence of any marked mental alienation. I determined to remove the polypus, but was so struck with the manner of the patient, that in placing her in the Medical Home I asked the Superintendent to obtain a special mental nurse to look after her. The next morning as she was taking her breakfast, nothing whatever having occurred in the meantime to excite suspicion, while the nurse was placing something outside the bedroom door, having foolishly allowed a knife on the tray, the patient cut her throat in two places, fortunately not fatally. I subsequently removed the growth in an asylum, but I am not aware that she ever recovered her sanity.

To show how persistent and obscure, with long intervals

of suspension, these climacteric impulses may be, I may mention the case of a lady sent to me by the late Dr. Hack Tuke, who had prolapse of the uterus, with attendant bladder symptoms. She suffered at times from marital delusions and attacks of melancholia. The prolapse was cured, and the patient relieved. She was supposed to be completely cured, but some years later, without any warning, in a fit of depression she committed suicide by drowning.

Clouston places under a separate heading "hysterical" insanity, an insanity engrafted on hysteria, and groups under this a distinct class of symptoms, such as incessant talking, sexual and erotic ideas, imaginary ailments, craving for notice, habits of masturbation. He says such cases form 2 per cent. of insane females.

I am not referring to-night to puerperal insanity, further than to say that in considering the etiology of this affection, various workers have shown that both in uterine lesions which have existed previous to labour, and other affections of pregnancy, we have ante-partum warnings of the predisposing causes of this affection, while in lesions occurring during labour, such as severe laceration of the cervix, not treated immediately and rectified, we have the exciting causes of the puerperal mania.

The insanity of pregnancy Clouston regards as comparatively rare, occurring in women advanced in life when becoming pregnant, and usually of a melancholic and suicidal character. There is an important bearing on these cases, as indeed, on all cases of insanity in women, and that is the hereditary alcoholic tendency and proneness to alcoholic nerve degenerations and dipsomania. Sixty per cent. of such cases, Clouston says, recover at childbirth.

How far menstruation, epilepsy and insanity are correlated, may be still further deduced from the observations by Sutherland in Hack Tuke's "Dictionary of Psychological Medicine." Briefly, they are as follows :—Esquirol has computed that the disorders of menstruation form

one-sixth of the physical causes of insanity, and in this conclusion Morel coincides. In epileptic insanity the catamenia had a marked influence on the fits, increasing these in number or intensity. Menstruation has a like effect in producing exacerbations of excitement in mania, while in sufferers from melancholia, amenorrhœa is frequently present. General paralysis appears to induce an early climacteric, and further, the curious fact is recorded that in a few aged insane women, the catamenia reappear after prolonged cessation. It is worthy of notice that in dementia, menstruation does not appear to be affected, and all the evidence points in the direction that there is a delay in the appearance of the menstrual act in imbeciles, idiots, and cretins.

I have recently had two patients, sisters, both of whom developed symptoms of insanity. In one it assumed the form of dislike to the parents and delusions regarding them, as well as a suicidal tendency. The first attack occurred with suppression of the catamenia. She got quite well of this. With a second stoppage of the periods she became the victim of religious delusions. Again, with the re-establishment of the catamenia, she has perfectly recovered. The other sister with the onset of each menstrual period grew excitable, and incoherent, and took sudden violent dislikes even of her parents. This mental derangement passed off about a week after the termination of her rather scanty flow. Gradually approaching the next epoch it recurred. She is now perfectly well, and her uterine functions are healthy.

Clouston well sums up the class of symptoms we meet with in patients of this stamp. I may summarise them as follows:—Stupidity and lethargy in some, lack of interest in duty, an anti-social tendency, causeless aversion to relatives, intolerance of control, incompatibility of temper, impracticable visionary scheming and want of common sense; sudden development of unaccountable immorality, or perverted sexual and reproductive trains of thought.

Unfortunately, as the writer says, such patients, who really require to be placed in the hands of a doctor, too often find their way into the arms of a policeman.

I have myself recorded two cases which, so far as I know, are unique, of trophic disturbance associated with menstruation. One, that I brought before this Society, of deep discolouration of the entire side of the face, complicated occasionally with extensive ecchymosis of the cellular tissue of the orbit, in a case of violent dysmenorrhœa, and coming on with the catamenia. The other, which I read elsewhere, and to which I gave the name of "esthiomenic menstrual ulcer of the nose," in which the most serious trophic disturbances, resulting in a form of corroding ulcer of the nose and lip, recurred with each menstrual period, and began with amenorrhœa. Curiously enough, a sister in the same family was subsequently troubled in like manner. (The full particulars of the case I refer to were recorded in the *Edinburgh Medical Journal*, 1898.)

Hack Tuke, in writing on marriage and insanity, notices what he evidently regards as a perversion of feeling, in which young persons of both sexes suffered during a protracted engagement from a revulsion of feeling and an antipathy, and an antipathy is engendered which may lead to a rupture and its legal consequences. Of course, there is one powerful factor in both men and women, which, especially during the development of adolescence, has a strong collateral influence in producing and maintaining erotic desires, impulses, and delusional insanity. Of this I have myself known some marked instances. I allude to the practice of masturbation. Not only has this habit a predisposing influence in the direction of such morbid emotions or delusions, but in many cases it plays a principal part in the production of the epilepsy of puberty.

I can speak from personal knowledge, having had many consultations with him in cases of mental trouble associated with disordered sexual functions, as to how the late Hack Tuke regarded this question. He recognised fully the

coincidence of disordered menstruation and disturbance of the mental functions, but was not greatly impressed with the value of a surgical operation on the insane, but, as he stated in the discussion which took place in this Society ten years since, he considered that the operation of oöphorectomy might be indicated in certain cases, and justifiably performed with benefit.

Our distinguished Honorary President on the same occasion held that in cases of nervous derangement, in which disorder of the sexual functions is suspected, a close investigation as to the state of the sexual organs should be made. There can be no doubt that the view of Spencer Wells, speaking generally, was strongly against operation in such cases. I have had, for the purposes of this address, a valuable letter from Dr. Blandford, whose long experience of the insane makes any opinion emanating from him of special value, and in that—for I have not here time to quote the entire communication—speaking from his forty years of connection with insane cases, the view is strongly upheld that uterine or ovarian disorders are not serious factors in the causation of insanity. He has never had a case of malignant uterine disease, and in only one patient a fibroid tumour, which was developed years after the insanity. He looks upon the cessation of the catamenia and amenorrhœa as rather a concomitant occurrence than as having anything to say to the causation of mental disease, and with regard to operations, he says that he has never known a patient cured by one, and *has* known insanity to follow in one case. He does not approve of subjecting a woman in a maniacal state to a vaginal examination.

I quote this opinion as expressing, on the part of an experienced alienist, the views of those who are strongly antagonistic to the more modern school, both of alienists and gynæcologists, with regard to this question. As one holding possibly what I might call a middle position, I refer to a communication I have had from Dr. Percy Smith, of Bethlem, who also took part in the discussion of 1890. His

views are the same now as then. He considers that the number of women in asylums who are supposed to have reached them through diseases of the sexual organs is greatly exaggerated; and, further, that many of the cases which have been admitted to Bethlem Asylum had already been submitted to gynæcological treatment for affections of the genitalia, and that the breakdown had come during such treatment and after operation for the local disease. He thinks, in cases of recurrent insanity and where the disorder is most marked at each menstrual period, that while he has no experience of the effect of oöphorectomy, it is worthy of consideration in cases whose outbreaks of eroticism, excitement, or stupor, occur at each period, the patient being sane in the intervals. The amenorrhœa, which is present in acute mental disorders, he regards, in the greater number of cases, as a symptom of the general disorder, and does not believe that it demands a local examination. Nor does he in any way agree with the suggestion that every woman admitted to an asylum should be examined, regardless of age or symptoms. "The gynæcologist must not lose sight of the nervous system, nor the alienist of the pelvic organs."

Dr. Yellowlees, writing to me, says that gynæcological operations for the cure of insanity are far from satisfactory in their results, and are not justifiable unless there be proof that there is local disease irrespective of the insanity.

I myself have seen insanity (not climacteric) complicating fibromata, displacements, and adnexal disease—but in every case the history disclosed a pre-existing predisposition to mental obliquity or some distinct form of alienation.

Personally, I at present take the view that, in the great majority of cases in which there are gross lesions of the sexual organs present in insane women, and even where the lesion has preceded the insanity, there still has been pre-existent to the lesion what Robert Barnes well calls "an antecedent nervous condition as a predisposing factor."

I lately operated upon a young lady who had been previously confined in an asylum, and who subsequently had the operation of myomectomy performed. The latter step was taken for a fibroma of the uterus, and the adnexa of one side were removed. The discharge from the cervix continuing, and treatment not availing, she consulted me for the affection of the cervix. On examination I found a most unhealthy cervix with a deep and bleeding erosion, and a rather profuse discharge. I removed the cervix, and she recovered perfectly from the operation. But the old symptoms of erotic mania returned, and it became necessary to remove her to an asylum from which she has since been discharged as cured.

I operated upon another case—one of a lady who had held the office of Superintendent in a private asylum, and from whom I removed two cystic ovaries. She previously had had curettage twice performed for endometritis and erosion of the uterus. She complained of constant agonising pain in the seat of the ovaries, and dysmenorrhœa. She was a typical specimen of the true neurasthenic and neurotic woman. Not until I had emphatic requests in writing from herself and relatives did I consent to operate, nor would I, I confess, be in a hurry to accede even under these conditions to such a proposal in a similar case. Twice she deliberately induced a hernia of the wound by her own acts, necessitating a third operation and forcible restraint afterwards to prevent a repetition of this, and then so admirably feigned a condition of dementia that not until the certificates for removal to an asylum were filled, which were really completed in order to test her malingering, did she return to a natural state of mind. This case, though an unenviable experience for me, may perhaps be a warning to others.

One of our Fellows, Dr. Halliday Croom, has this year reported a case of acute mania occurring on the third day after simple ovariectomy, the patient dying on the sixth day and also a second case of acute mania at each menstrual period, which he treated several years since by the removal of cystic ovaries, resulting in a permanent cure.

Mr. Elder and Mr. Furneaux Jordan have both had two cases of post-operative insanity, all of acute mania. The operations were curettage and oöphorectomy, and the diseases ovarian cystoma and myoma.

One of our Fellows, Dr. Halliday Croom, has this year reported a case of acute mania occurring on the third day after simple ovariectomy, the patient dying on the sixth day; and also a second case of acute mania at each menstrual period, which he treated several years since by the removal of cystic ovaries, resulting in a permanent cure.

Elzholtz, of Vienna, has reported a case of suicidal melancholia completely cured by pan-hysterectomy. In this case there was a bleeding myoma.¹⁰

I have also, through Mr. Martin, notes of a case. A patient, aged 42, upon whom he operated in the Warwick Asylum for ovarian tumours, suffered from melancholia, which passed into dementia. The case ended in complete recovery. He refers to two other instances of menstrual mania which were cured by pan-hysterectomy. In the one case four years, in the other two, have elapsed since the operation, and both have completely recovered. On the other hand, he also sends me notes of two cases, one of vaginal hysterectomy for chronic metritis and hæmorrhagic endometritis, and the other a case of pan-hysterectomy for myoma, in both of which insanity followed the operation, one about a week, and the other three weeks, later.

Dr. Japp Sinclair gives me the particulars of an interesting case of a lady who had been confined in the Cheate Royal Asylum. She suffered from a bleeding fibro-myoma, and had been subjected to a long course of expectant and old womanly treatment for the same. Professor Japp Sinclair performed hysterectomy, and though there was an anxious time after the operation, she never again had to return to the asylum, from which she had been temporarily removed for the purpose of operation.

¹⁰ *Wiener klin. Wochenschrift*, November 29, 1898.

Dr. Ernest Hall reports another most interesting and instructive case. The patient suffered from intermittent melancholia for nearly three years, and came to be looked upon as a hopeless case in the London Asylum (Montreal). The adnexa when examined, after she had been in the asylum from April, 1895, to January, 1898, were found diseased. Complete recovery followed on oöphorectomy.

Professor Auguste Martin, of Berlin, on whose vast experience I thought it well to draw in writing this address, says that all his experience teaches him that healthy women do not run the risk of insanity from their sexual functions, nor are they endangered as to insanity by operations on their sexual organs. On the other hand, if their mental condition at the time of the operation, or previously, be not a normal one, operations on the sexual organs induce mental instability or temporary insanity, the more so in proportion as their physical or mental state have been impaired prior to the operation.

Dr. Wood, of Hoxton, out of eleven cases, admitted to the asylum within ten years, of women who suffered either from climacteric disturbances, or in whom sexual disturbance was attributed as a cause, shows that in one case melancholia had followed removal of the ovaries, in another it supervened after suppressed menstruation, and in another, a senile prolapsus uteri was present. There was one case of mania of pregnancy, one of the mania of puberty, and six of climacteric insanity. Up to 1890 Keith had six cases of insanity out of sixty-four hysterectomies, and Savage, of Birmingham, had records of four cases of insanity out of 483 cases of oöphorectomy.

Mary Dixon Jones, whose opinion as the foremost of living women gynæcologists, and whose views with regard to epilepsy I have already quoted,¹¹ referring to oöphorectomy for *diseased* ovaries and tubes in the case of

¹¹ BRITISH GYNÆCOLOGICAL JOURNAL, November, 1895.

women so affected who are insane or mentally afflicted, having instanced some such cases, says: "I would not remove healthy or normal ovaries for dysmenorrhœa or any suffering in the regions of the ovaries; I would not remove any save diseased adnexa for epilepsy, nor for mental or neurotic disease, even if I had failed after long trials of tentative measures, and had the cordial, full, and deliberate sanction of experienced practitioners."

George Rohé, of the Hospital for the Insane, Sykesville, who probably as much as any other living psychologist has studied the effects of the operation on women in insanity, and, indeed, also in the case of males, comes to these conclusions with reference to post-operative insanity, that while there is little difference in the two sexes between the number affected, the graver forms follow, in the majority of cases, operations upon the abdominal and pelvic organs in women.

He considers that excluding cases of heredity, or acquired psychopathic predisposition, the mere removal of the ovaries would have no greater psychical effect than the removal of the arm or leg.

Confusional insanity is the form frequently found as post-operative, and both Dr. Rohé and Dr. Hurd of Baltimore, who has written on post-operative insanity and undetected tendencies to mental disease, consider that the great majority of the cases are due to toxæmia from septic infection. "There is no ground for considering," says Dr. Hurd, "that the operation *per se* produces mental disease," and, so far as removal of the ovaries is concerned, a premature climacteric insanity may be developed, but this is due to the loss of the organs, and not to operation." The essential pre-requisite for the development of post-operative insanity must be in all cases a neurotic organisation predisposed, either from hereditary taint or from acquired nervous weakness, to take on diseased action in consequence of any disturbing influences. Operation should be discouraged in people of this constitution.

Mr. Jessett inclines to this view, that though insanity may

occasionally follow gynæcological operations, still, the rule is that the patients recover from the mental disturbance and are ultimately much better for the operative interference.

It was my intention to have referred to other matters in which gynæcology is brought into close relationship with forensic medicine, and where it plays a most important part, as, for instance, in suspicions of chastity and the form and condition of the hymen; gonorrhœa, and the presence of the gonococcus in uterine discharges, and the whole question of scientific pathological evidence as regards wounds of the uterus, the condition of the endometrium, the presence and duration of the products of conception in utero, as well as the pathological differentiation of pregnant and non-pregnant changes in the ovaries. All these considerations seriously affect a correct decision in cases of attempted or produced abortion. Time, however, does not permit of this.

CONCLUSIONS.

On the entire evidence before me I have come to these conclusions:—

(1) That the correlation of insanity and disordered sexual functions arising out of affections of the generative organs is a factor to be taken into serious consideration in the treatment of the mentally afflicted.

(2) That where there is ground for the suspicion that some physical condition of the uterus or adnexa exists which may produce or aggravate the mental affection, a careful examination, under an anæsthetic if necessary, should be made.

(3) That in the investigation of criminal acts committed by women, either during the menopause or while the menstrual function is either active or suppressed, due weight should be given to the influence exerted by its irregularity or abeyance on the mind of the woman. In doing this, her previous history and temperament have to be considered.

(4) That the special dangers of the climacteric period should be remembered, and the symptoms indicative of threatening climacteric mania must be recollected. The principal of these are moroseness and depression of spirits, attacks of hysteria, occasional hallucinations of sight and hearing (especially of smell), delusions with regard to relations, unjust dislikes, unfounded apprehensions of some great crime committed or injury inflicted on them, suicidal tendencies.

(5) That in operations on the female generative organs there is a greater predisposition to mental disturbance than after other operative procedures, but the post-operative insanity is generally of a temporary nature.

(6) That women who have been previously insane are predisposed to a relapse by the development of disease in their sexual organs, and especially to such recurrence of insanity after operation on these organs.

(7) In order to anticipate suicidal impulse, and the commission of crime, the disordered mental symptoms exhibited at the menstrual epochs and at the climacteric should be carefully noted, and if the discharge or the cessation of the sexual function be attended by evidence of disease in the sexual organs, an examination of these should be made, when, if gross lesions be detected, operation should be resorted to.

Before concluding this address, it is right that I should in very brief terms refer to the losses that our Society has sustained during the past year. Already from this chair some of these gaps have been alluded to.

It would seem that the penalty that many original minds have to pay for the greatness and genius that stamp their lives and work is that a strong personality and the characteristic traits of a unique individuality are distinguishing features of their personal attributes, and run through all their dealings

with their fellow men. Such force of character frequently manifests itself by an unusual strength and vigour of expression, which becomes a habit in conversation, writing, and debate. A supreme egoism runs through all, and imparts to the expression of their views on any subject a sense of distasteful egotism to those with whom they happen to be brought into friendly controversy. Such men frequently mistake a vehement exposition of their opinion for argument, and their deductions from, and readings of, certain phenomena, as general scientific data that it is rank heresy in all others not to accept in the same light. Such attributes as I have said are not agreeable ones, and consequently many workers in the same field, less obtrusive, and possibly more accurately informed, shrink from a conflict into which sooner or later the personal element is certain to be introduced. Unfortunately also such traits of temperament influence contemporaries unfavourably, and they are tempted to assume an attitude of opposition, and possibly to be unjust in their criticisms of a man whose boldness and originality they cannot hope to emulate, but whose weak points they are ready to fasten on and drag into such prominence that they would fain have us regard these as the man himself, ignoring the legacies that his work has left for the good of the race and the welfare of mankind. With such men, as the late Lord Lytton has said, "pure ivory fares no better than mere bone," and a more mean-spirited crew still are they who when the proud nature has paid its last debt, and is no more among them, "praise the hollow ghost that blamed the living man."

We here to-night have naught to remember save a young and original surgeon, fired with enthusiasm and ardent resolve to announce and defend new and startling theories, or the same well-known personality with all the force of settled conviction, irritated by carping criticisms, advocating and promulgating principles and rules of practice which in the early days of the art that he professed were certain to meet with an opposition which only lent to his robust opinions greater strength. Probably the attitude which so many

deplored, while they admired his genius, was gradually developed in the late Lawson Tait by an opposition not always marked by the unbiased analysis of the scientific basis of its arguments and practice, and which displayed too obviously in the background innuendoes as to motives and personal selfishness which should never have found their way into the arena of scientific encounter. Well, we here to-night who knew him personally, and others who knew him not, realise that his is one of those memories that cannot be "lost in the crowd in an eddy of purposeless dust." To most of us, alas, it is given to strive blindly and achieve but little, and all the more, therefore, can we humble workers in the field in which Lawson Tait was one of our earliest pioneers, pay this passing tribute to the genius that inspired, and the indomitable courage that sustained, the man.

Our Society has also lost one of its most genial of spirits, a man whose manner, ever breezy and kindly, had a peculiar personal attraction for every one who was brought into contact with him. Last year he sat near me at one of our convivial meetings, and was present at one of our discussions, though he did not take part in it. At the time no one would have thought, looking at that vigorous frame, that we should have so soon to deplore the disappearance of his name from our roll of Fellows. His had been a life of extreme usefulness; he was an able physician as well as a practical gynæcologist. Most of his years were unostentatiously devoted to fighting that fell disease which yearly thins the ranks of many of the fairest and most promising inhabitants of these isles. Dr. Sinclair Coghill was one of those workers who, early following in the wake of Henry Bennett, denounced the old coddling system in the treatment of phthisis, advocating a more outdoor bracing and stimulating management of those affected with tubercle, founding his medication as much on a system of bactericidal therapeutics as on diet and regimen.

It will be remembered that last year we lost a Fellow equally enthusiastic as Dr. Sinclair Coghill in the same

cause, the late Charles F. Fitzgerald, of Folkestone. It has been owing to the steady influence exerted by a host of such workers for the last quarter of a century, all labouring in the same direction, that we owe a more intelligent treatment of tubercle, rather than to more recent agitations of some hysterical philanthropists who have boomed as a new discovery the open-air treatment of phthisis.

One other friend of old standing I have lost in this Society within the past few weeks; I refer to Dr. Waring, of Brighton. He was a comparatively recent Fellow, having joined about a year since at my request, and intended to have been present at the demonstration recently given by Dr. Doyen. He was suddenly seized with bronchitis, and died within a few days. Originally a naval surgeon, he occupied an important social position in Brighton, where his work in many civic matters had gained for him a high character for independence and business-like capacity.

The Society has marked its sympathy, as well as its appreciation for his high scientific attainments, by conferring on Dr. Savage, of Birmingham, its Honorary Fellowship, and a warm vote of condolence on his severe accident was sent by the Council to one who will be always remembered as a most genial and courteous Past President of this Society.

It is meet also that I should here refer to some special communications which have been brought before the Society during the past twelve months, and to the authors of which we have been considerably indebted for interesting discussions that followed their reading. Mr. Stanmore Bishop's paper on the combined method in pelvic surgery was one of these, and elicited a valuable and practical discussion on the surgery of exceptional cases demanding hysterectomy. Dr. Bantock aroused considerable interest by his paper on "The Modern Doctrine of Bacteriology, or the Germ Theory of Disease, with Special Reference to Gynæcology." Had the leading of a forlorn hope depended only for its success on resourceful handling

and dexterous manipulation of the subject, that onslaught on the germ theory generally could not have failed to have had a triumphant issue.

Perhaps no more valuable communication, nor one more pregnant with practical results, both pathological and operative, has been read before the Society than that by Mr. J. W. Taylor, on the treatment of gonorrhœal salpingitis; and it led to a most able summary on the whole subject of gonorrhœal infection of the female genital organs by the distinguished bacteriologist, Mr. Alexander Foulerton. The main feature in Mr. Taylor's paper was the value to be placed on anti-syphilitic treatment in diseases of the adnexa. The Society will not readily forget the beautiful demonstration of Professor Haultain, illustrated by the perfect microscopical sections, throwing light on the etiology and pathology of deciduoma malignum. No more important communication on this subject had hitherto been read in this country.

Dr. W. J. Smyly opened a valuable discussion on the causes of death after coeliotomy, one of the most vital questions that can come before the gynæcologist; and our foreign colleague, Dr. Mendes de Leon, of Amsterdam, came specially over to read a most interesting communication on "General Disorders originating in Disease in the Pelvic Organs," proving into what intimate relationship gynæcology is brought with disorders of other than the pelvic organs—in short, that no gynæcologist is worthy of the name who is not at the same time a well-informed general physician.

From our Canadian Fellow and most distinguished gynæcologist came an exhaustive paper on "Hernia following Abdominal Operations: its Prevention and Cure." Anyone who has followed the progress of gynæcological surgery for the last ten years knows the important part played in it by Professor Lapthorn Smith, of Montreal. The last communication that I shall refer to was that read before the Society by Mr. Furneaux Jordan, on the "After

Effects of Removal of the Appendages and of Removal of the Uterus." The paper had a particular value, as raising the question of oöphorectomy as against hysterectomy in certain cases of uterine and adnexal disease ; and this was further enhanced by the careful following-out of the cases on the results of which Mr. Jordan based his conclusions. Many other brief papers, not the less important because of their brevity, and most interesting specimens have been brought before us, but I have instanced sufficient to indicate the large field of work covered during the past year ; and I conclude this summary by an allusion to that extremely brilliant cinematographic demonstration on the "Surgery of the Pelvic Organs in Women," which was given by our distinguished Fellow, Dr. Doyen, of Paris, to whom the thanks of the Society are specially due for the trouble he took and the expense which he incurred in preparing special films for that demonstration and bringing his apparatus from Paris.

Dr. C. H. F. ROUTH moved a hearty vote of thanks to the President for his valuable and interesting address. They had been regaled by a wonderful paper ; but in view of the fact that this was the last address they would hear from Dr. Macnaughton-Jones, from the presidential chair, he wanted to speak not so much about the paper, but rather of the man. He wished to thank him for the courtesy, hospitality, and impartiality which had characterised his tenure of office, and for the learned and valuable contributions which he had made to their debates. Among the many distinguished past occupants of the chair none had been worthier or better fitted for the post. While many good qualities distinguished the natives of Great Britain, the true Irish gentleman was above all distinguished for the quality of *heart*, and Dr. Macnaughton-Jones exemplified in this respect the best traditions of his nationality. With regard to the paper itself, the subject thereof was of the greatest importance, and was one that was not often discussed. There was more insanity among women at the present time than formerly, and inas-

much as woman was the most civilising element in the community, it was a most important thing that they should study and practise all that was best in order to restore or maintain her health. Hence they were deeply indebted to Dr. Macnaughton-Jones for calling their attention to this subject.

Dr. W. J. SMYLY, Dublin, seconded the vote of thanks so eloquently proposed by Dr. Routh. The address to which they had listened was of the most deeply interesting nature, and was in itself an epitome of the opinions of the leading alienists and gynæcologists on the subject. He wished also to echo the remarks of Dr. Routh on the brilliant presidency which had come to an end that evening. He had himself been an original Fellow of the Society, and could say that there had never been a time when the Society had passed through such a brilliant and successful phase as during the last two years. Eminent foreigners had been attracted to come and address them at their meetings ; and the success had been largely due to the untiring activity of their President.

Mr. STANMORE BISHOP, in supporting the vote of thanks, remarked what a debt the Society, and especially the provincial Fellows, owed to the President. There were many societies where a member felt that it did not matter to any one whether he was present or not ; but this was not the case with the British Gynæcological Society—every member felt at home, and this was largely due to the influence of the President.

The vote of thanks was carried by acclamation ; and the President briefly acknowledged it.

BRITISH GYNÆCOLOGICAL JOURNAL.

EDITOR'S REPORT, 1898-1899.

UNAVOIDABLY OMITTED FROM JANUARY MEETING.

I MUCH regret that I was at the last moment unavoidably prevented from attending the Annual Meeting, and making the usual report concerning the welfare of the Journal during the last year.

In outward appearance, the Journal has, for the most part, continued during 1899 in the same lines as of recent years. The Reports of the Society's Proceedings have been very fully and ably recorded by Dr. Giles, while Dr. Macan in taking entire management of the Abstracts Section, has distinctly improved what was already so valuable a department. In this work he has received, as in former years, valuable assistance from Doctors Edge, Furneaux Jordan, Hebert and Martin.

The Original Articles and Clinical Cases have maintained their standard of interest, but the latter might, I am sure, be supplied by the Fellows in larger numbers.

I would venture again to point out that short notes of important Clinical Cases would be of much value, and would not entail that amount of labour which busy Fellows often find it impossible to expend in papers.

The year has been an important one as regards the management of the Journal, seeing that the new scheme of dividing the Editorial responsibility between three has been introduced and tested. I am glad to be able to report that it has worked with all the success anticipated.

Indeed, as if to specially test the working powers of such a plan, it unfortunately happened that I was unable to

continue my duties for a portion of the year. One of my colleagues, Dr. Giles, very kindly took over my work and brought out the succeeding number of the Journal without delay.

This fact in itself showed the importance of the Journal not being too dependent on the time and energy of any one man, and the necessity for there being others familiar with its working ready to step into such a breach.

It is with sincere regret that I find it impossible to continue the duties of Editor-in-Chief.

My years of office have been very interesting and most instructive to me. Among many other things learnt, I have been enabled to see more and more clearly how large a scope there is for such a Journal as that of the British Gynæcological Society, and the directions in which in due course, its value may still be amplified. It is very gratifying to me to see the Chief-Editorship pass into the hands of so capable a successor as my colleague, Dr. Macan. His active connection with the Journal is of longer standing than that of any, or almost any Fellow, and his special attainments pre-eminently fit him for such a post. In his hands, I am sure the Journal will develop rapidly, and its value increase in proportion.

I would like, in conclusion, to express to the Council and Fellows my deep sense of indebtedness to them all for their uniform consideration to me during my years of office; more especially as I fully realise my shortcomings. I have often been unable to carry out many promising schemes, but I trust my endeavour has always been to promote the best interests of the BRITISH GYNÆCOLOGICAL JOURNAL.

F. F. SCHACHT.

ORIGINAL COMMUNICATIONS.

THE FOURTH HITHERTO UNDESCRIBED DISEASE OF THE
OVARY—COLLOID DEGENERATION.

BY MARY DIXON JONES, M.D.

*New York City.**(Concluded from page 411.)*

IT is a great study—the changes of life material in the human body ; and are there any structures that have more vital elements, or are of more vital moment, than these wonderful formations, the ova, from which come every living creature and the whole human race? These wonderful little structures “have the power of reproducing not only ova, like itself, but counterparts of every cell in the body.” It has such a concentration of life material, that in one of the lowest vertebrates “a complete animal may be evolved from as little as one-eighth of an ovum.”¹

Another remarkable instance of colloid degeneration of the ovary was Mrs. F., 25 years of age, married some years, no birth or abortion. The uterus was retroverted, ovaries enlarged, prolapsed and exceedingly sore and sensitive. In both ovaries are found endothelioma, gyroma, and gyromatous cysts. The walls of many cysts are in intense inflammation, also there is intense oöphoritis in different parts of the ovary ; and all through this inflamed tissue, and through the various degenerated tissues, are thickly scattered colloid bodies. The ova contain similar forma-

¹ “Manual of Physiology,” G. N. Stewart, Downing College, Cambridge, England, 1895, p. 775.

tions, in many there are colloid masses entirely destroying the vesicula and the macula, and even the epithelia, while near by are ova in waxy degeneration.

Fig. 5 is a most interesting illustration of colloid degeneration found in the ovaries of this patient.

The yolk, vesicula and macula, the essential elements of the ova, are displaced by colloid corpuscles, showing how every separate structure of the ova may be reduced to colloid material. First the ovum, or portions of it, are changed to protoplasm, then colloid granules appear, they enlarge, have more and more the colloid appearance, and they continue to increase in size, till colloid bodies or corpuscles larger or smaller are formed.

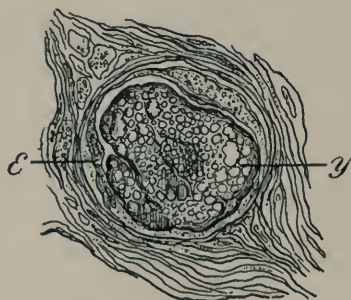


FIG. 5.—HIGH DEGREE OF COLLOID DEGENERATION OF OVUM. $\times 600$.

Y, Yolk and central trace of vesicula germinativa, transformed to colloid granules. E, Epithelium, detached.

In the left ovary the walls of the cyst are waxy, and in this waxy degeneration are colloid bodies. In a gyromatous formation is a little remnant of an ovum, nothing seen but a waxy and a colloid mass. In this ovary, also, are two ova in one membrane, one in waxy degeneration, the other in colloid; near by another ovum, in colloid degeneration, and next to it an ovum in waxy degeneration; then a group of ten ova all destroyed by waxy and colloid degeneration. Such wonderful pictures were again and again presented.

In the right ovary many ova are in colloid and waxy degeneration. One partly colloid, and partly waxy, another all the vital parts waxy. Then two equally destroyed by colloid degeneration; yet another, and all that remained of it is a waxy mass, and this waxy mass is surrounded by a crowd of colloid corpuscles scattered in fields of intense oöphoritis. Another inflamed cyst wall filled with colloid formations, and the neighbouring vessels are in waxy and colloid degeneration. What is very interesting, the wall of another cyst is reduced to fibrous connective tissue, while near it are fields in waxy degeneration, and in the cyst wall are colloid corpuscles! It is all more wonderful than fairy tales. I write as I see it in the microscope under a power of 400 (Hartnack Lens.)

A yet more remarkable example of colloid degeneration was seen in the ovaries of a patient I saw in February, 1889. She gave her age as 25, that she had been married ten years, and, "ever since her marriage, had constant soreness and distress in the pelvis;" repeating again and again, "I suffer terribly and get worse all the time."

On the left side was found an enlargement size of a cocoa-nut, and extremely tender. This appeared to be the left ovary, enlarged to a hæmatoma, or blood cyst. Each tube was a sac of pus, and was adherent to its corresponding ovary. The patient entered the Woman's Hospital of Brooklyn. As she lay in her bed she often marked from the outside of her clothing the boundaries of the blood cyst, saying, "There it is, and I want to get clear of it." She begged again and again to have the operation, and was more than disappointed at any delay. It took place in the hospital, February 23, 1889. A part of the wall of the blood cyst was so thinned that even with the most gentle handling it ruptured, discharging much dark grumous blood, mixed with pus. The tissues of both ovaries, from subsequent examination, presented evidence of the most profound disease, and complete destruction of all normal structures; as the eminent pathologist, Dr. Charles Heitzman (deceased),

who had opportunities of examining many microscopical slides prepared from sections of both ovaries, said : "There was not in either ovary, the least vestige of normal tissue."

Fig. 6 represents two ova from the ovaries of this patient.

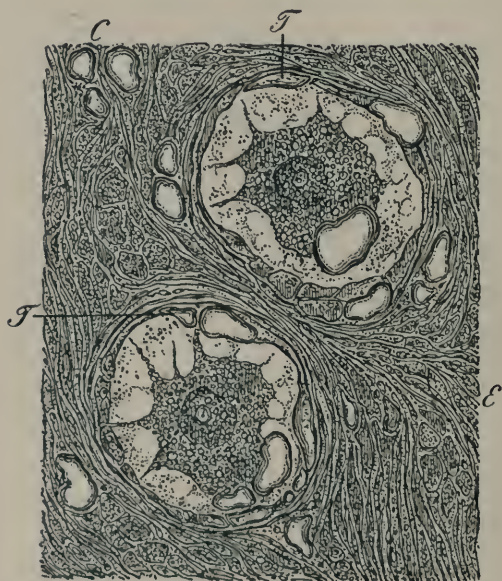


FIG. 6.—COLLOID DEGENERATION OF OVA. $\times 600$.

Colloid corpuscles in the yolk and the epithelia of both ova. *T T*, Epithelia in transition to colloid substance. *C*, Colloid corpuscles in the stroma of the ovary. *E*, Embryonic corpuscles.

The central part, the yolk, and vesicula and macula are transformed into a mass of colloid corpuscles, not a vestige of the original structure. Large colloid bodies were seen in and around. The epithelia are very much swollen, and in the first stage of forming colloid masses. Many ova have evidently disappeared by one form of degeneration or another. Other ova are as profoundly diseased, not one is capable of any physiological function. It is a sad record.

The patient was suffering, and her life was in peril. Without an operation there was no possibility of her life being prolonged.

It is an interesting and remarkable fact, that in the same ovary there may exist at the same time many different forms of degeneration. In the ovaries of the above-mentioned patient, besides the colloid degeneration, there were other grave forms; "Endothelioma, gyroma, and with these existed, and intensely, acute oöphoritis; but probably, the most serious of all was the large hæmatoma of the left ovary, the walls of which were in extreme danger of rupturing. This of itself, without surgical help, would soon have proved fatal.

Another most interesting example of colloid degeneration. Mrs. M., a young woman, scarce 20 years of age had one child, could have had many more, but disease came. The patient had interstitial pyo-salpingitis, and there is found colloid degeneration of the whole ovary. The periphery is in intense inflammation, forming abscesses, while some portions are waxy, yet all filled with colloid corpuscles. Many fields of the cortex, not a single ovum, but thickly crowded with colloid bodies. In another field appear a number of ova, and every one is almost destroyed by colloid formations, presenting most wonderful and curious pictures. In one field, by a power of 400, I count fifty ova, a heap of ruin. In other places are continuous heaps, all in ruins.

Other sections of the ovary show myriads of colloid corpuscles, and the same wonderful destruction of the ova. Many ova are almost entirely gone by this degeneration, then appear repeated fields and no ova, and again, groups of ruined ova. In other portions there are numberless ova—each one could have done good work—now destroyed by waxy degeneration. In both ovaries the medulla is in myxomatous degeneration, yet crowded thick with colloid bodies. In one section, between the medulla and cortex is a Graafian follicle, the walls waxy, myxomatous tissue

within, and this myxomatous tissue in a state of inflammation, and crowded thick with colloid corpuscles. Outside of the follicle the ovarian tissues are in intense oöphoritis, and filled with similar corpuscles, while larger colloid bodies seem to crowd to the periphery, and amid them is the exhibition of ruined ova, all showing a wonderful history.

A most interesting study, this, the many ways in which ova may be destroyed, the various forms of degeneration, and the different degrees of destruction. Each section of these ovaries present most important subjects for consideration, and they invite thoughtful study and investigation.

A yet more remarkable instance of colloid degeneration of the ovary was met with in a young girl, 21 years of age, with "pus-tubes," interstitial pyo-salpingitis. One section of the right ovary:—Intense inflammation of the cortex, and all around bright colloid corpuscles. Not one ovum to be found. Another section:—No ova, colloid bodies, and blood vessels in colloid degeneration. A third section:—Colloid degeneration of all the structures, blood vessels closed, and walls in colloid degeneration. Left ovary: Cortex in intense inflammation, abscess in the cortex, only one ovum is found, and both its yolk and its epithelia are in colloid degeneration.

In one of the most marked examples of myxomatous degeneration of the ovary, that of Miss E. M., there is also colloid degeneration, and many of the ova are in the same degeneration. In one, the whole ovum is reduced to colloid substance and protoplasm. Another, the epithelia waxy, waxy yolk, and the vasicula and macula colloid; another, the outside is in waxy degeneration, colloid degeneration of the vasicula, and the macula reduced to protoplasm. In the midst of myxomatous degeneration, is a Graafian follicle with waxy walls, and around it is intense inflammation, and near by are ova in colloid degeneration. Altogether it is a wonderful presentation.

It will be interesting to see the commencement of colloid degeneration represented in the next figure.

Colloid granules begin forming from a previously inflamed tissue, the granules grow larger, and form large masses, while there is a general infiltration of colloid corpuscles through the tissues.

The patient, Miss H., aged 35. An abscess in the left ovary, myxomatous degeneration of the right, then an endothelioma, gyroma, colloid formations, and waxy blood vessels. The ova also present a scene of disease and destruction. One, the yolk, vasicula, and macula are in

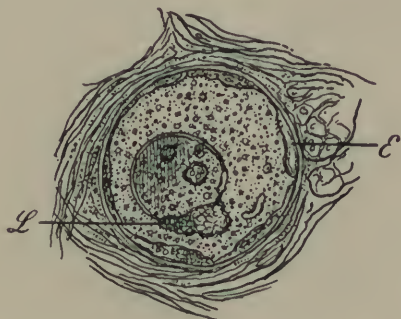


FIG. 7.—COMMENCING COLLOID DEGENERATION OF OVUM. $\times 600$.

L, Lump of colloid material; similar lumps in the vesicula germinative.
E, Flat epithelium in beginning colloid degeneration.

colloid degeneration, and no epithelia can be traced. Another, the epithelia are full of colloid bodies, and the yolk, vasicula, and macula are a mass of larger and smaller colloid formations, no normal structure left. Another ovum, only a vestige, showing it has been in colloid degeneration; then two more, almost destroyed by the same form of degeneration; and near by are all the wonders of an endothelioma changing to blood corpuscles; blood corpuscles rising out of this granular life matter, or protoplasm; and more wonderful still, the oft-repeated sight of newly-forming blood vessels.

Near this endothelioma is an ovum in the first stage of

forming what is called Graafian follicle. There are the spreading wall of the young ovum, the mysterious multiplication of the epithelia, the increasing activity of the vascula and macula, and all the marvellous life changes in the process of the development of the ovum. But just when this wonderful little structure is taking on new life and new activity, it is stopped, blighted in its growth, petrified, fixed, callous, dead.



FIG. 8.—DIFFUSE PIGMENTATION AND INCIPIENT COLLOID DEGENERATION OF OVUM. $\times 600$.

E, Detached epithelium. *C*, Colloid corpuscle in muscle layer.

Such sad destruction of the growing ova I have seen in many instances.¹ The young ovum active in the wonderful processes of developing into a perfect human being, when, like a upas, comes this strange, this petrific degeneration, and all the life parts in the developing organisation become apparently reduced to this yellow-like, bright, transparent colloid material. In one patient (Mrs. I. J. H.) aside of the active young developing ovum already petrified, I could

¹ See also figs. 3 and 4.

count seventy-eight bright colloid bodies crowding close up around the young ovum which had been so cruelly stricken, and thereby stopped in its process of development.

Fig. 8 shows colloid degeneration with pigmentation. We see the central parts of the ovum, the yolk, vasicula, and macula are covered with colloid bodies accompanied by more or less pigmentation. The epithelia are also in colloid degeneration.

Both ovaries in this patient were found in intense inflammation, each one containing an abscess. There were also peritoneal abscesses and pyo-interstitial salpingitis. The patient, Mrs. A., was 28 years old, married, and never conceived, and was suffering so seriously that she could only seek refuge in a hospital. She complained of constant pain in the pelvis, said she suffered so much she could no longer endure it. The operation for removing the uterine appendages was performed at the Woman's Hospital of Brooklyn, January, 1888. The "pus tubes" and ovaries were bound down by dense adhesions, the adherent peritoneum contained a number of small abscesses. After being relieved of these hopelessly diseased structures the patient's health became excellent.

I would say that the ovaries of this patient were remarkably well formed and well constituted; such as could develop hundreds of vigorous and life-giving ova. Gonorrhea came! not of long standing, but the infection seemed at once to affect the ova, and by some mystery they are all in colloid degeneration, while there are comparatively few colloid corpuscles found in either ovary. Sections of each one show not only abscesses, but large growths of endothelioma. The ova and blood vessels are in colloid degeneration.

Fig. 9 is a most interesting example of colloid combined with waxy degeneration. Colloid corpuscles are in the epithelia, and they occupy a large portion of the vesicula, and apparently have destroyed the whole of the macula, while portions of the vesicula and of the yolk are in a waxy degeneration.

This ovum is in the midst of inflamed ovarian tissue. There are large ovarian cysts, the walls in intense inflammation and filled with colloid corpuscles ; other portions of the ovary are in intense oöphoritis. In many sections of the right ovary there are no ova. In other sections there are a few, and these in colloid or waxy degeneration ; and of some ova there are only remnants of structure, many ova evidently having been destroyed. There is an endothelioma forming its seas and lakes of blood, a hæmatoma enlarging

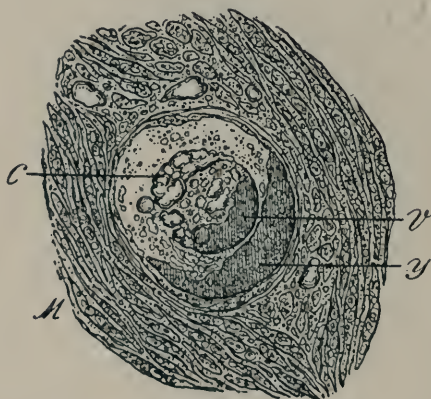


FIG. 9.—COMBINED COLLOID AND WAXY DEGENERATION OF OVUM. $\times 600$.

C, Colloid mass at the upper periphery of the vesicula. V, Lower portion of vesicula transformed into a waxy mass. Y, Waxy portion of yolk.

still more the enlarged ovaries, and the cysts with walls in a high state of inflammation. Also, in each ovary there are Graafian follicles, the walls of which are in waxy degeneration, and the myxomatous tissue within contains colloid corpuscles.

It was in the ovaries of this patient that gyromatous formations or gyroma were first recognised.¹ Any new growth or formation, or any morbid change of tissue, must

¹ *Proceedings, New York Pathological Society*. May, 1887 ; also December 12, 1888.

necessarily cause in a patient pain, distress and suffering, and more or less constitutional disturbance. As we know, even the formation of an abscess, which is a temporary change of only a small portion of tissue, yet it gives more or less distress.

This patient, Mrs. M. G., had perfectly healthy ova. Though only 35 years old she had given birth to eight children, but the sepsis of the last confinement seemed to have infected every structure of the ovary, developing acute oöphoritis, gyroma, endothelioma, and finally a large hæmatoma or blood cyst; and probably the same sepsis made destruction of all the ova and caused the colloid degeneration. She first came to the out-door department of the Woman's Hospital of Brooklyn, August, 1887, a mere shadow of her former self, emaciated, feeble, and suffering great pain. When she entered the hospital she begged to be relieved of her suffering, repeatedly asked that she might have an operation, and disappointed at any delay. So weak was the patient and so unfavourable her conditions that we did not think it possible for her to survive an operation.¹ Finally, to relieve her in some respects, the operation was performed; she made an excellent recovery, was apparently in good health, and on returning home commenced at once her heavy household duties, working for a family of eight persons. Her husband said she had not been as well for fifteen years.

Fig. 10 is a remarkable presentation and suggests many subjects for thoughtful consideration. The ovum is atrophied and in waxy degeneration, yet the whole of both ovaries are in colloid degeneration. We see the inflamed muscle fibres around the ovum, and we can well imagine the advanced condition of disease when the muscle fibres themselves are inflamed; and if they are thus inflamed, or reduced to protoplasm, we may know

¹ *New York Medical Journal*, September 22, 1889, p. 340. *The Buffalo Medical and Surgical Journal*, November, 1892, p. 206.

that more advanced pathological changes will appear. We see that amid the inflamed muscle tissue new fibrous connective tissue is entering the ovum. It is progressive atrophy, and shows that many ova may gradually disappear from a diseased condition of the ovary. We see that the whole of this ovum is reduced to inflammatory corpuscles or protoplasm.

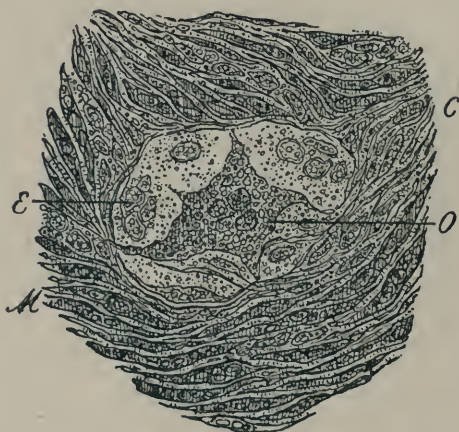


FIG. 10.—BEGINNING TRANSFORMATION OF OVUM INTO FIBROUS CONNECTIVE TISSUE. x 600.

O, Yolk and vesicula germinativa shrivelled, coarsely granular. *E*, Embryonal corpuscles, sprung from previous epithelia. *C*, Newly-formed fibrous connective tissue, entering the ovum; capsule of ovum lost. *M*, Inflamed smooth muscle-fibres.

We find many interesting examples of atrophy, especially after ova have been reduced to fibrous connective tissue. This patient,¹ aged 39, had been sick since she was 25, and continued to grow in worse conditions, pain increasing in severity, much of her time not able to be out of bed. She was at one time in the Massachusetts General Hospital, also under an eminent specialist of Boston. He informed

¹ Miss T. W., *Medical Record*, August 7, 1897. Case 73.

her that her ovaries were diseased, but that an operation would be exceedingly dangerous. Subsequently, during the summer of 1888, this patient was in the Woman's Hospital of Brooklyn. She returned in the fall, and in November of that year I removed the diseased tubes and ovaries, and she has said many times since "that she was so glad that she had the operation; that before she did not expect to live, but now she had gained in health and strength."

The ovaries were found diseased in every part, not only colloid degeneration, but a far advanced endothelioma is forming vast fields of blood; there was a gyroma in waxy degeneration, and in both ovaries there are found only the remains of a few ova.

The nature of colloid degeneration is not yet understood. We do not know its origin or the cause that produces it. Nor do we know the symptoms of colloid degeneration in the ovaries, or how to diagnose it. We can only recognise in the patient the evidences of disease, suffering, and distress, but no special indications that point to or would prove colloid degeneration.

Thomas Bryant,¹ the great English surgeon said:—"Its true nature is not yet fully known."

Moore says:²—"As to colloid, pathologists have not yet agreed among themselves as to the diseases which should be included under this name, many authors speak of it as a variety of cancer."

Lazarus Barlow,³ Demonstrator of Pathology, University of Cambridge, England, says:—"Colloid, mucoid, and hyaline changes are at present but little understood and therefore lack definiteness."

Professor T. H. Green⁴ says:—"The chemical nature of colloid material is as yet unknown."

¹ "The Practice of Surgery," London, 1876.

² Holmes' "System of Surgery," vol. i., London, 1860, p. 534.

³ "Manual of General Pathology," p. 519.

⁴ "Pathology and Morbid Anatomy," 1898, p. 102.

Quain, in his "Dictionary of Medicine," 1894, says :—"Colloid, a peculiar morbid product resembling in its characters glue or jelly, and found associated with cancer and other forms of new growths."

If colloid material is of the nature of glue or jelly, why should it not mix more or less with the interstitial fluids or "juices" of the ovary? Would it be possible for masses of glue or jelly to remain constantly in fluids and have such firm outlines, and apparently such clearly defined boundaries? Would not glue or jelly be more or less changed by the continued presence of the animal fluids or succulent tissues? Yet here, in these countless numbers of colloid bodies or corpuscles, not one is found that is the least mixed with fluid, or in itself is the least changed.

Many eminent authors speak of colloid bodies or corpuscles as "drops," or "droplets of colloid matter." These "drops" or "droplets" must be wonderfully firm to retain their various shapes and sizes; but what is yet more surprising, many of these drops or droplets show distinctly that they are composed of granules.

Sir James Paget¹ says :—"The colloid matter is in different parts or in different instances various in consistence."

Dr. J. C. Warren² says :—"There is some difference of opinion as to the origin of colloid matter. Some think it is elaborated by the cell; others assume that it is exuded by the vessels."

If it is elaborated by the cells, would not similar cells produce it in all instances? I believe colloid degeneration *develops directly from protoplasm, as all other degenerations or new tissues are formed.*

Delafield and Prudden say³ :—"Colloid degeneration is of frequent occurrence in certain tumours and in the thyroid gland, and occurs occasionally in other places."

¹ "Surgical Pathology," 1865, p. 659.

² "Surgical Pathology and Therapeutics."

³ "Pathological Anatomy and Histology."

We have thus far seen that in various diseases of the ovaries, colloid degeneration is of frequent occurrence. The human ovaries give a sad record of this disease or degeneration. For the last few months I have been carefully studying by high and low powers of the microscope sections of eighty-seven pairs of ovaries, and in the eighty-seven I have found the ovaries of forty-seven of the women in colloid degeneration. I marked down the names of each individual case; each one was a most interesting history; and all illustrated many important facts in the pathology of the ovary. So many instances did I see of colloid degeneration, and so destructive was this disease to the ova, that when in reviewing old sections which I had previously studied,¹ not recognising colloid degeneration, when I would see marks "no ova," or "few ova," I at once concluded there was colloid degeneration, and invariably found it to be the case; though ova are, in a measure, also destroyed by endotheliomatous growths and by waxy degeneration, yet colloid degeneration seems the most peculiar, and the most universally destructive of all degenerations. I have found colloid degeneration in the ovary when there were most serious forms of tubal diseases, and when there was no special disease of the Fallopian tubes. I have found colloid degeneration in cases of the most intense oöphoritis, and I have found cases of intense oöphoritis, even bordering on suppuration when there was no colloid degeneration.

I have found colloid degeneration in some cases of abscess of the ovary, and in other cases of abscess there was no colloid degeneration.

¹ This valuable collection of specimens I had prepared with great care and some expense for the Museum of the Woman's Hospital of Brooklyn. They were collected in 1885-6-7-8-9-90, and the specimens are all from patients who were in that hospital. Subsequently, the Board of Trustees of the hospital, by a vote, gave them again to me; but I intend sometime to pass this valuable collection over to some college or to some hospital museum.

In some cases, when I have removed the uterine appendages for intermural fibroid tumours, I have found colloid degeneration of the ovary, and in other cases of intermural fibroid there was no colloid degeneration. In a feeble and anæmic woman with intermural fibroid weighing nine pounds, there was no colloid degeneration; and another suffering the same way, and with an intermural fibroid weighing $13\frac{1}{2}$ lbs., there was colloid degeneration.¹ In again small and large fibroid tumours, some with colloid degeneration, others without.

Colloid degeneration differs very greatly in different ovaries both as to the extent and the degree of degeneration. It differs also as to the size of the bodies, or masses of colloid material, some being many times larger than others.

Colloid degeneration seems not only to destroy normal tissue, but it somehow has the power of displacing and destroying other growths and other forms of degeneration. An endothelioma around, and in an intensely inflamed cyst wall, I have found almost destroyed by colloid corpuscles. Again, the wall of the cyst in full waxy degeneration and crowded with colloid corpuscles, one could see that the waxy degeneration was gradually disappearing and being displaced by the growing colloid formations. In many cases of waxy degeneration I have watched the glimmerings of new forming colloid corpuscles, and could see that colloid degeneration was coming with its singular powers of destruction.

In another part of this paper I mention the instance of colloid corpuscles being in the endothelia of an endothelioma. A most extreme example of this was in the case of a patient, who came to see me in 1887, suffering greatly from a complicated condition of disease of the

¹ Both these tumours were removed by hysterectomy, one supravaginal, the other total. Both patients recovered, *BRITISH GYNÆCOLOGICAL JOURNAL*, February, 1898, p. 502.

pelvic organs till the woman had become partially insane. After the operation of removing the diseased uterine appendages, the patient was not only improved in physical health, local and general, but had very much more normal mental conditions. In the examination of a section of the ovaries at that time I recognised the acute intense oöphoritis, the gyroma, the endothelioma, and the diseased ova, but only lately have I recognised the magnitude of the colloid degeneration. In an endothelioma in these ovaries, instead of granules merely of colloid matter, there were all through the endothelioma large bodies of colloid substance, and the endothelioma was somehow mysteriously being destroyed by these colloid formations. I have recognised in other instances the destruction of an endothelioma by a growing colloid degeneration.

Colloid degeneration as yet presents a wonderful mystery, and it seems completely to destroy the ova in the ovaries of even the youngest women. I have found colloid degeneration in the ovaries of young women 18 and 20 years of age, and equally in women who were 48, 49, and 53 years of age. It is not an understood disease, and each individual instance is of great interest. It, like all other pathological subjects of the ovary, should be studied in connection with the clinical history of the patient. The whole subject of the pathology of the human ovary is becoming more and more vast, and of more and more importance. When I first turned my attention to it I imagined in a few weeks I could understand all about the normal and pathological structure of these little organs. More than twenty years have passed, and I find more than ever to study, to wonder at, and to seriously consider. Each individual slide, or each section of the ovary, would seem to demand hours, and some even years of study, and then all is not understood. There is so much in each one. And when I look at the wondrous changes, the marvellous developments and growths of diseased ovaries, and then at the infinite perfection of each minutia of normal ovaries, I

can only bow in adoration recognising a Supreme Power and an Infinite Intelligence. It would seem there were enough wisdom, design, and painstaking in the construction of the ovaries to have created a world. They are the representative links of human history.

Dr. G. E. Herman, of London, author of a large work on "Diseases of Women," wrote me on June 16, 1898, "I have read many of your papers with much interest, more especially a recent one on 'Diseased Ova.' I think in studying this subject you break new ground, but I think a necessary preliminary to right judgment upon morbid conditions of the ova is a knowledge of the changes in the ova which depend upon age simply, and are not morbid."¹

It would be exceedingly interesting if one could have the opportunity of studying normal human ovaries, and to note "the changes in the ova which depend upon age simply, and are not morbid."

In my microscopical studies I have been able to recognise in the ova only changes from disease, and in most instances these changes were in the ovaries of quite young women, 19, 20, and 21 years old. Still, as far as I have had the opportunity of noting, a few instances of normal ova between the ages of 19 and 53, I could observe no change that could be attributed to age, or that might come from advancing years, nor have I been able to observe changes in any ova that were not clearly from infection, or some form of degeneration arising therefrom.

The changes—pathological and otherwise—of ova, as of

¹ It has given me great pleasure to present from time to time my investigations to the kindly consideration of the medical profession. No profession stands higher, none I more profoundly honour, and none I regard as more profoundly learned. It was the great and good men of the medical profession in this country that stood by the right in that uncalled for, and most cruel persecution against the Woman's Hospital of Brooklyn, a hospital that was doing such beautiful and excellent work. My debt of gratitude to these honoured men is unceasing. I could again and again thank them by name for their most noble magnanimity.

other structures of the body, are not so much from age as from infection.

I was once privileged to examine sections of the ovaries of a woman near 70 years of age, removed by *post-mortem*.

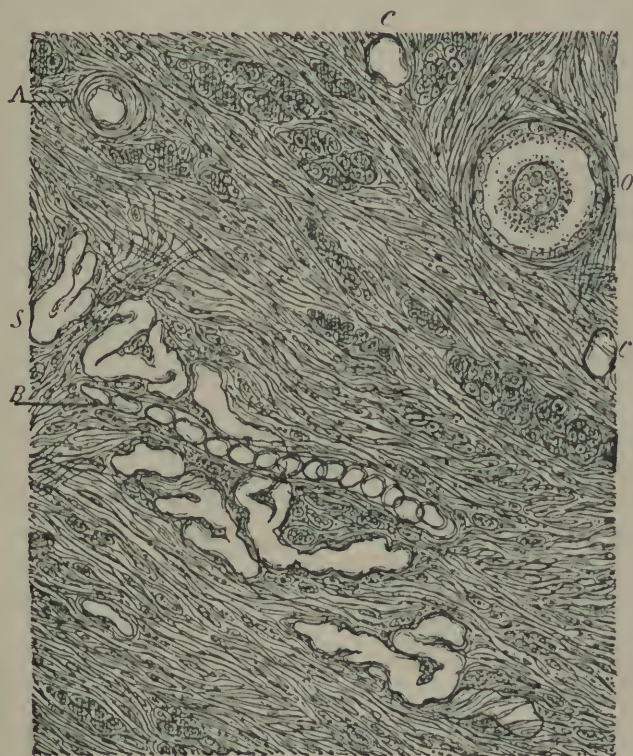


FIG. 11.—CORTEX OF OVARY OF A WOMAN SEVENTY YEARS OLD. $\times 500$.

S, Convoluted structureless membrane, imbedded in fibrous connective tissue. *O* Ovum; yolk shrivelled. *A*, Artery, in transverse section. *B*, Capillary blood-vessel in longitudinal section. *C C*, Colloid corpuscles.

These ovaries did not give evidence of any change from age, nor were there any special indications of disease, except a few colloid corpuscles in the cortex. The ova were in apparently normal conditions. I give a drawing from the ovaries of this woman near 70 years of age.

I have seen sections of the ovaries of a girl, 18 years of age, and the ova were more changed than in the ovaries of this woman near 70 years old.

Why should the ova change from age any more than other anatomical structures of the body. Do the muscles change with the passing years. Do they not look the same in the old and the young? From a specimen of muscle tissue can one decide the age of the individual? In the ovaries of this old woman the muscle structure under a power of 500 did not show any apparent change. The interlacing fibres were apparently as natural and beautiful as are presented of a comparatively young woman. (See fig. 3, *American Journal of Obstetrics*, vol. xxxvi., No. 2, 1897.)

Nor was I, in the ovaries of this old woman past 70 years of age, able to recognise any change in the blood vessels. For instance, the walls have not changed to fibrous connective tissue as we might imagine, nor was there any form of degeneration of the blood vessels, which we so frequently find in the diseased ovaries of many young women, and which changes must necessarily interfere with or render less active the circulation of the blood. Not one vessel in the ovaries of this old woman had become incapable of work, and what was more, remarkable, in all the sections that I examined there was not one instance of a diminution of, or closure of the calibre of any of the vessels; not one instance of endarteritis obliterans; yet I have found diseased blood vessels, and complete endarteritis obliterans in ovaries of many young women, and in ovaries of women of all ages, a diminishing of the calibre from disease. And in the ovaries of this old woman no part of the organs was so worn and diseased that it had degenerated into cysts, yet in the ovaries of many young women I have found the whole ovary riddled and destroyed by cyst formations.

What was further remarkable was that in the ovaries of this woman past 70 years of age, the structureless

membrane was in a normal condition. For thirty, thirty-five years, or perhaps longer, this structureless membrane had lain quietly, not changed, inflamed, or enlarged, but just as it would be in the healthy ovaries of vigorous young women.

It is disease that does the damage and works the marvellous changes in the ovary. One young girl, aged 21, was perfectly formed and apparently healthy, yet I find in the ovary intense oöphoritis, gyroma, endothelioma; and there is colloid degeneration through every part, which colloid degeneration has destroyed the ova till there are but few left. One ovum has the macula and vesicula reduced to granular matter, and is in a crowd of corpuscles. Another ovum with the vesicula and epithelia waxy, while colloid corpuscles are crowding into the ovum and close around it. In another section of the ovary is a group of four ova, all in waxy degeneration; next, a group of four in colloid degeneration; some few scattering ones almost gone, and there is a shower of colloid corpuscles all around. There was not only this wonderful showing of diseased ova and colloid degeneration, but this young girl of 21 had salpingitis. The folds of the mucosa of the Fallopian tubes were, in most places, completely destroyed by masses of inflammatory corpuscles, and even the whole muscle wall of the Fallopian tube was in colloid degeneration.

As a little further record, or other instances :—Katie, aged 18 years, many different groups of ova almost destroyed by colloid degeneration, while around were imperfect remnants of colloid ova. In the ovaries of Mrs. F. are seen an endothelioma nearly destroyed by colloid corpuscles, another endothelioma breaking down into intense inflammation; from periphery to cyst wall there was not a sign of an ovum. Another section found the ova almost gone, and the mucosa of the Fallopian tubes destroyed by inflammatory corpuscles. Miss Polly P., aged 19 or 20 years: repeated sections show colloid degeneration and ruined ova. A cyst wall intensely inflamed becoming filled with

colloid corpuscles which are apparently destroying an endothelioma. In the midst of colloid material ova are in waxy degeneration.

Another young woman, Miss M., showed a waxy ovum, almost gone in the midst of colloid degeneration. In another field, eighteen ova surrounded by colloid corpuscles, and colloid corpuscles thickly strewn all through the cortex. A waxy ovum with colloid corpuscles in it. Another portion of the cortex, not one ovum could be found, so constantly were presented wonderful pictures of the destruction of ova in the midst of colloid corpuscles. In this patient both tubes were in a state of interstitial suppurative salpingitis, and both bound to the ovary by inflammatory adhesions. Another young woman, many bright colloid corpuscles and not one normal ovum. Sad to see the ovaries of young women so diseased. All through these ovaries are intense inflammation and abnormal growths, and around are showers of colloid corpuscles.

Another young woman, Mrs. H., aged only 21, and in even worse conditions, both as to ovarian and tubal disease.¹ Mrs. U., a young woman seeking relief because she wanted to be the mother of children. There are intense oöphoritis, endotheliomatous growths, and not one ovum is found; all destroyed! A young girl, Miss Mary M., aged scarce 20, colloid degeneration, large endothelioma, acute oöphoritis, and no ova. Miss S. S., aged 20, pus tubes, whole ovary in intense oöphoritis. Miss A. M., aged 21, the same conditions and not a single ovum! Miss T., aged nearly 40, colloid degeneration and not one ovum. Mrs. C., aged 23, pus tubes, abscesses, colloid degeneration, and no normal ova. Mrs. N., a young woman aged past 30, married, sterile years of suffering, inflammation, suppuration, colloid degeneration, myxomatous degeneration, and no ova.

So I could give the history of many young women in whom the ova were gone or destroyed by colloid degenera-

¹ *New York Medical Record*, August 25, 1886.

tion. I do not tell half the marvellous things that are constantly being revealed. We do not know the wonders, or understand the significance of colloid degeneration. It seems the most wonderful of all forms of degeneration, and apparently has the power of overwhelming and destroying every other. I am convinced that colloid degeneration plays a large part in the pathological condition of many ovaries. This degeneration presents a wonderful mystery.

I find the most interest and the most profit in studying the pathological conditions of the ovary in connection with the clinical history of the individual cases. A knowledge of the clinical history seems a necessity for the clear and full understanding, not only of the case, but to have the clearest insight as to the nature and the causes of the pathological changes.

I am further convinced that the removal of such diseased ovaries and tubes, as are mentioned in these various forms of degeneration, is the salvation of the individual and the saving of many sick women.

The diseased ova in these young women were, in most cases, if not every one, caused by some outside infection, in one way or other. Beside, every one of these young women was, so far as I could learn, before this infection apparently healthy, and with sound constitution, and life's prospects were opening before each one with promises of joy and happiness. The infection came, and all their bright beautiful prospects were destroyed.

These investigations only show a little more fully the nature of their sickness, and still more how it was not only blighting their dearest hopes, but destroying their lives. Should not such diseases in young women be prevented, should not young women be instructed and protected?

One young physician said to me a short time since:—"What is the use of studying these intangible subjects? What we want to know is, when and how best to operate?"

Do we not know when, and how best to operate, when we know the momentousness of the disease, and can weigh all the solemn responsibilities? I studied because I

wanted to know and wanted to learn the best thing to be done to help these suffering young women. I believe many young women have been lost from a lack of the recognition of all the seriousness of their disease and the necessity of giving immediate relief. Many more have perished in this way than by having the ovaries removed, when some may have imagined there was no necessity, or there was no immediate danger, or there was possibly some other imaginable way. As I said in 1886,¹ the fault is not with the surgeons who are trying to help the sick women, but with those who have gone before.

I have never been able to believe that ovaries have been removed when it was not necessary. Battey, it is true, professed to remove normal ovaries for constitutional conditions, yet, from a study of his cases, I believe in each instance the disease of the organs themselves demanded their removal. I believe many women have died from not having hopelessly diseased tubes and ovaries removed. I said further in 1886,¹ "I have never seen the ovaries removed in a single instance but that they were more diseased than the symptoms led me to suppose," and that "removing diseased uterine appendages is not unsexing a woman; it is restoring her from helpless invalidism to all the possibilities and opportunities of life and labour. It is not taking away her capability of having children—that has already been done by the disease—it is only removing a cause of suffering and of threatened danger." We will find that the disease makes more serious conditions and more profound constitutional disturbances than does the absence of these organs.

In the careful study of many ovaries by the aid of high and low powers of the microscope, I have never yet seen an ovary where I could believe a part could be left with advantage to the patient. I rather believe, when part can be left, none should be taken.

¹ *The Medical Record*, August 21, 1886.

THE CINEMATOGRAPH AND THE TEACHING OF SURGERY.

By PROFESSOR E. DOYEN, M.D., of Paris. Translation by A. A. WARDEN, M.D., Glasg. (Clinical Assistant to Professor Doyen).

ANIMATED photographs were at first used as an entertainment. Only short scenes were represented, a row of films, eighteen metres in length, system Lumière or Edison, at the rate of sixteen pictures a second, lasted exactly one minute. The vibration of the picture, always fatiguing to the eye of the spectator, became intolerable when it was a matter of reproducing complicated subjects. Only in the open-air or in a special studio could good negatives be obtained. I endeavoured several years ago to apply the cinematograph to surgical instruction, but was unable to overcome the difficulties referred to; the films were not sufficiently sensitive for the most powerful lenses then in use, and it was impossible to obtain satisfactory results with the apparatus of those days except in the case of a movement of very short duration. Operations on the dead body could easily have been photographed in the open air, but would have had no scientific interest or value. In all medical schools there is an amphitheatre for operative surgery where the use of instruments and technical details may be demonstrated by the professor at each lecture. The students practise on the dead body the ligature of arteries and the various sutures. It is even possible to imitate the flow of blood by connecting the aorta and the carotid with a raised recipient filled with coloured water. These practical experiments give but a very faint idea of true surgery. An operation on a dead body can never be compared with an amputation on the living subject. With a view, there-

fore, to supplementing this notoriously defective system of instruction, we must have recourse to the cinematograph and reproduce real operations. With the projections we shall be able to explain to our students the difference which exists between real and operative surgery, which has been rightly termed the "Surgery of the Dead."

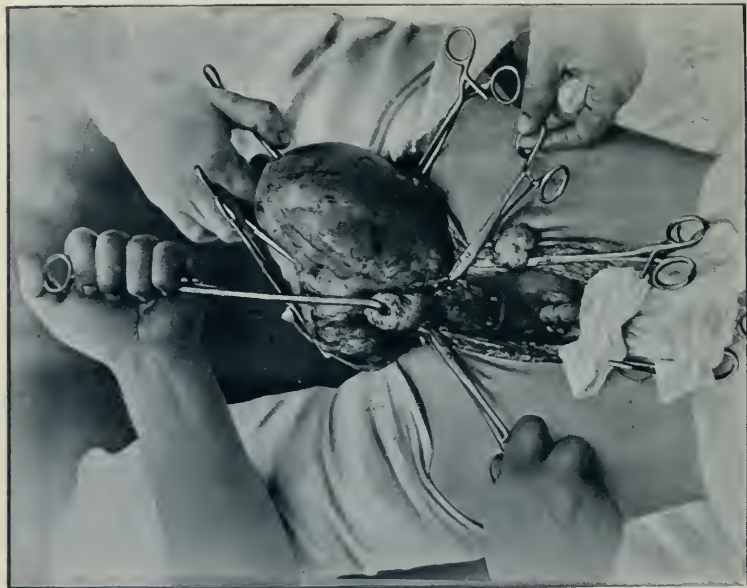
If we go on to consider such operations as the removal of the kidney, of the thyroid gland, ovariectomy, hysterectomy, the difference becomes more marked, and operative surgery can only be considered the complement of topographical anatomy. The student will study, for instance, the different layers he must traverse to reach the kidney, its exact position, and the relations of its blood vessels. In thyroidectomy or hysterectomy he will appreciate the relations of the thyroid gland, the great vessels of the neck, and the laryngeal nerves, the exact position of the ureter, the hypogastric, uterine, and vesical arteries. A certain amount of practice can even be obtained in the surgery of the stomach and of the intestines, and familiarity with the blood supply of these organs, the action of the various clamps, and the arrangement of the sutures. But operative surgery will never confer the gift of operating.

Do our books fill the gap thus left? Certainly not. The most detailed descriptions, the best diagrams or photographs of the various steps of an operation are inadequate. Take, for instance, the clamping of the broad ligaments in vaginal hysterectomy. Surgeons who have not seen my crushing forceps used cannot grasp its simplicity, and photographs of the various steps of the operation can only give them a partial idea. On the other hand, with the cinematograph we can make hundreds of people follow in one minute what a whole lecture could not make clear to a limited number of students. Thus there is accumulating in medicine a mass of more or less useless literature, descriptive and critical, and due appreciation of new methods becomes impossible. Surgeons themselves cannot derive the full benefit of visits to foreign



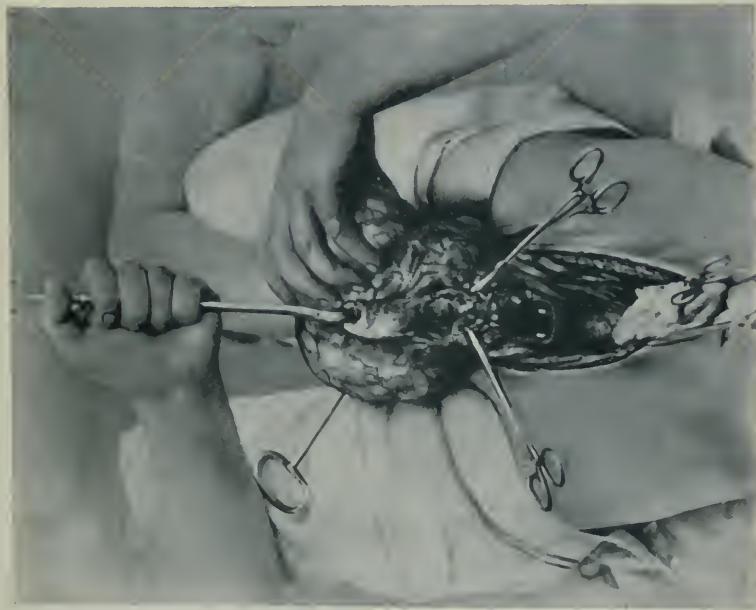
[From Photograph—Doyen.

EXTRACTION OF MYOMA WITH CORKSCREW OF DOYEN.

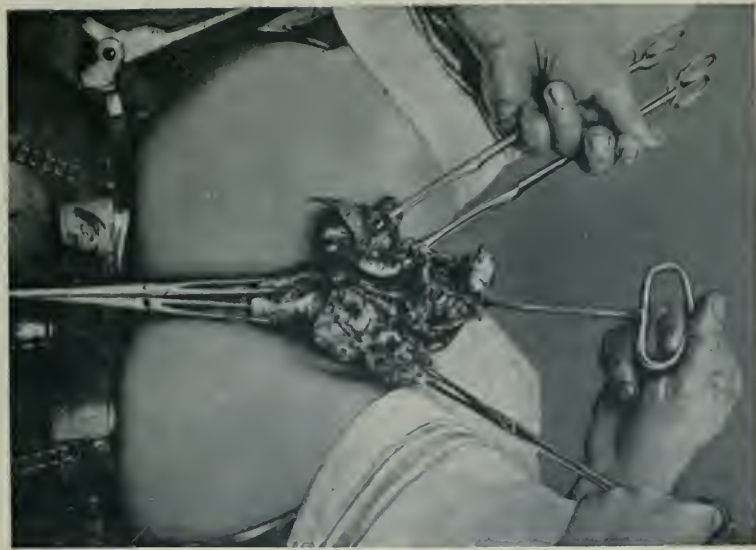


From Photograph—Doyen

HYSTERECTOMY ; CERVIX HALF DETACHED ; FORCEPS OF DOYEN
ON THE UTERINE ARTERIES.



[From Photograph—Doyen.
CERVIX ENTIRELY DETACHED. ENDS OF FORCEPS SEEN
IN VAGINA.



[From Photograph—Doyen.
VAGINAL HYSTERECTOMY FOR MYOMA. EXTRACTION OF FUNDUS
UTERI AFTER THREE V-SHAPED INCISIONS.

schools, and only fifteen or twenty of those who assist at an important operation can follow with profit the details of the technique. The safety of the patient demands that spectators should be at a certain distance; the hands of the surgeon and his assistants conceal part of the field of operation, and the surgeon himself may be the only one to follow some of the more delicate steps. It is not sufficient to follow the operation, as it were, secondhand; but the author of the technique, the master himself, must be seen at work. The surgeon is judged by his work, and no text-books, however well illustrated, can sufficiently express his personality.

It has been with the object of completing our means of teaching the art of surgery that I have been led to study and employ the cinematograph.

The first operations taken by the cinematograph were a craniectomy and an abdominal hysterectomy. The films thus obtained by M. Clément Maurice with the Lumière apparatus, and by Monsieur Parnaland with his own invention, were sufficiently clear to show the value of the method. The first demonstration of the teaching of surgery by the cinematograph took place at the annual meeting of the British Medical Association in Edinburgh in July, 1898. Three films were shown :—

- (1) The manipulation of my operating table.
- (2) An abdominal hysterectomy.
- (3) A craniectomy.

This first demonstration was conclusive and so satisfied the physicians present that I was asked to give a second the next day.

And yet no one has shown a satisfactory series of films since July, 1898, the date of my first demonstration in Edinburgh, the priority of which has never been disputed. Since the meeting of the British Medical Association in Edinburgh I have added to my collection of films, which will be issued in a few months for use in teaching faculties. With each film a full description, clinical and pathological,

will be supplied. Surgeons who may wish to use the cinematograph themselves, either in operating or in teaching, are welcome to ask us for any details which may spare them errors and expense. Students abroad may thus follow the technique of the great surgeons of the world, they can compare methods and follow the progress of surgery. The historical value of such a possession can hardly be denied. What do we know of the prowess of Maisonneuve, of Langenbeck, of Billroth or of Péan, who yet are, it may be said, of our own day? How valuable would it be could we follow now with the cinematograph those marvellously rapid operations without chloroform, on the field of battle or in the operative theatre, and see once more the courage of the patient and the skill of the operator.

The progress of surgery is such that what is good to-day is improved upon to-morrow. Thanks, however, to the cinematograph, future surgeons will be better able to judge of the real progress accomplished.

Finally, and perhaps most unexpectedly, the surgeon himself may greatly benefit by the cinematograph. When I saw for the first time one of my operations reproduced on the screen, I recognised how far I fell short of my ideal. Many details of technique that had seemed satisfactory I now saw to be defective, and the cinematograph has thus enabled me considerably to correct and simplify, and to perfect my operative technique. My first films also show the personal progress that I have been able to make. Our films are so clear that the most delicate manœuvres, such as the suture of the pelvic peritoneum in abdominal hysterectomy, and the opening of the dura mater in craniectomy, may be followed.

You will notice that each operation is done methodically. The patient, the movements of whose respiration can be followed on the screen, is anæsthetised; there is no suffering, and the loss of blood is trifling. The surgeon is calm; his movements are precise and calculated. When he makes a muscular effort you can see his biceps harden,

his face contract, his whole body place itself in the most favourable position. The cinematograph registers the whole scene as it takes place, faithfully, rapidly, and in detail. Each step can thus be studied, analysed, criticised. The surgeon can assist at and calmly study his own operations. He can see in his face the anxiety of the moment. He can see himself superintending the respiration of the patient under the anæsthetic. He can see his whole mind set upon the successful execution of some movement, and almost anticipate the smile of relief that follows its accomplishment. Unnecessary gestures and movements may be noted and avoided. The cinematograph has more than once almost startled me in the resemblance I could not help seeing between myself and my late father, Dr. Octave Doyen.

The hours that I have spent with M. Clement Maurice and my assistants studying my technique with the help of the cinematograph have been of the greatest interest and value.

It is a help to all. The anæsthetist is surprised to see himself nervous and anxious at one moment, calm and attentive at another. The nurses who bring the thermo-cautery or who lift away the tumour removed, may see any clumsy movement and correct it.

There seems further no objection to the presence of non-medical spectators at these demonstrations. Members of ambulance societies are in the habit of going to hospital, attending operations, performing dressings, and learning the principles of antiseptic surgery. Such persons may thus acquire knowledge which will be useful in the case of accidents before medical aid can be obtained.

The cinematograph could usefully be added to such a course of training, and first-aid students might learn from it the duties they might later be called upon themselves to perform. And is it altogether to be regretted now, when all classes of society follow with such keen interest the progress of surgery, that the non-medical public should

have other means of getting information than inaccurate descriptions? We hardly think so, and those who have seen operations as shown by the cinematograph admit that the calmness of the surgeon, the precision of his movements, the perfection of the operative technique, tend to diminish rather than increase the unknown horrors of an operation. The public will also learn this fact, that an operation as performed by one surgeon is a vastly different matter from the same operation by a different surgeon. There has been too great a tendency to believe that with the triumphs of anæsthesia and antisepsis, surgery has become all but inoffensive. It is time to protest against this error. The success of an operation depends much more upon the skill of the operator than upon the antiseptic care, which every surgeon ought of course to exercise. The cinematograph, registering the details of an operation with the proper speed and perfect accuracy, will show of what mettle the surgeon is made.

If you wish to publish a new procedure, add to your description several rolls of cinematographic films. Each original procedure can thus be compared with methods already published.

Those of my operations are short, and we have heard it said that the cinematograph "went more quickly than the operation." Turn the instrument yourself and you will see upon how little knowledge this criticism is based. If you turn too slowly the movements of the surgeon and his assistants are manifestly slowed; if you turn too quickly there is a rapidity and haste of movement that at once strikes the eye. The operation is only well reproduced if you turn at the same rate as at the moment of operating. My operations, therefore, last just as long upon the screen as during their actual performance. Most of them are not complete; the toilette of the field of operation, the completion of the sutures offer little interest, and would uselessly add to the difficulty and expense of the photographs. The projection that lasts five minutes appears extremely long. Thanks to

the cinematograph, I have been able to defend myself against the reproach that I operated too quickly. Study several of the operations on the screen, and you will see that there is no haste and no useless movement, and that the operation is brief because the technique is simple and precise. Operate simply and you will operate successfully. "The more hurry the less speed;" in French, *hâtez-vous lentement*.

The progress of surgery during the last few years has been due far more to the improvement of technique than to the observance of the laws of antisepsis. The cinematograph will prove this better than descriptions or photographs. I have devoted myself for many years to the improvement of surgical instruments, to the simplification of hæmostasis and operative technique generally, and the cinematograph will make these methods known and permit colleagues abroad to judge of their value. I shall be sufficiently rewarded if I succeed in proving that operations should be simplified to the greatest possible extent, and every useless manœuvre, every tedious and lengthy procedure, as far as possible suppressed. In your hysterectomies, in your pylorotomies, in your craniectomies, adopt my technique, and you will be able to finish in a few minutes operations that by other methods will take you half-an-hour or hours. The loss of blood, which used to be considerable, will be trifling, the shock will be insignificant, the recovery rapid. What can the patient gain from a long operation? It would be judicious to operate slowly if slowness were one of the chief factors of success, whereas the contrary is the case. I have never sacrificed safety to speed. I operate at the same time more simply and more surely, whereas the prolongation of an operation adds to the gravity of the prognosis. Do in an hour a hysterectomy that I would do in ten minutes, and in those fifty minutes you will tax the patient's strength by useless movements that may irreparably compromise the vitality of the tissues. The prolongation of the anæsthesia, the in-

crease of the loss of blood, will further injure your patients, and it is thus that operations of two or three hours' duration have such a heavy mortality. "Time is life."

Lectures with the cinematograph should be given as follows :—

(1) The professor briefly describes the operation, and shows upon the screen projections of the principal instruments to be used.

(2) Each step of the operation is shown in detail by fixed projections either of photographs or drawings.

(3) When the technique is thoroughly understood the operation itself is shown on the cinematograph.

If the professor has films of several cases of the same operation, he demonstrates the technique and the necessary modifications in the different cases.

The students need no longer crowd the operative theatres as more or less unintelligent on-lookers. They will be obliged to follow a preparatory course before they actually assist the surgeon. They will then be able to draw profit from his lectures and from the operations themselves.

The application of the cinematograph may be considered one of the greatest improvements in the teaching of operative surgery, since it will make known throughout the world the best methods and the surest means of saving part of humanity from suffering and from death.

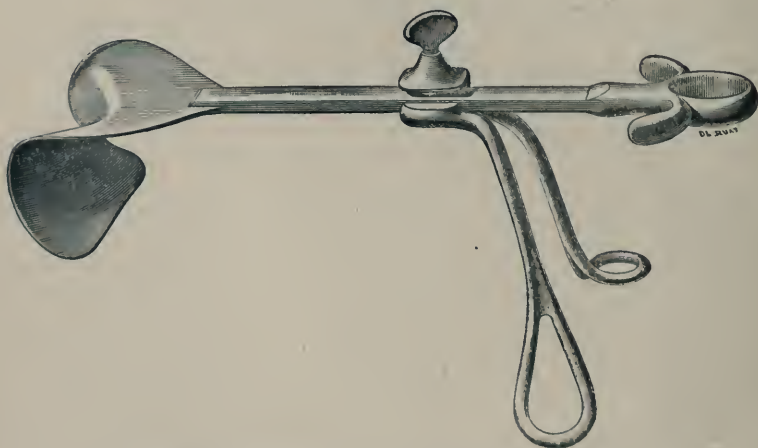
DR. DOYEN'S DEMONSTRATION.

A Note by H. MACNAUGHTON-JONES, M.D., &c.

THE recent cinematograph demonstration of Dr. Doyen before the Society served admirably to show the advance and improvements he has made in the operation of pan-hysterectomy since his name was first associated with that operation. The old method of operation by clamps, both in the celio-abdominal and vaginal procedures, he has for a long time abandoned. The extirpation of the uterus, and the hæmostasis of its pelvic attachments, were accomplished without the use of preventive clamps. His method of opening the vagina by the posterior cul-de-sac, the preliminary passage of the suture for the subsequent closure of the peritoneum and vaginal opening, the use of his special *érigne* for passing through the vaginal opening and seizing the cervix, to facilitate the division of the anterior vaginal cul-de-sac up to the final isolation of the cervix, with the exception of its lateral vascular connections, were each and all improvements in the rapid conduct of the operation. The bolder step remained of completing the severance of the broad ligaments at either side and the uterine vessels, without preventive hæmostasis, by the *control* of the finger and thumb of his assistant, and the final securing of the uterine arteries and branches by ligature. Complete closure of the pelvic peritoneum, including the ovarian pedicles, is the last step of this operation. A purse-string suture is used for its final closure, or interrupted sutures are employed for the same purpose.

In a later celio-pan-hysterectomy, when the vagina had been opened in front and behind, and the cervix liberated

from the bladder, the broad ligaments were seized and held by forceps, the pedicles were seized, crushed, and divided at either side, the uterine arteries were next tied, and the forceps removed. A purse-string suture was carried from the retro-uterine peritoneum to that between the right adnexa and the bladder, this throwing the stump of the right adnexa below the peritoneum. The stump of the left adnexa was treated in a similar manner, and a continuous suture was carried from left to right, approximating the retro-uterine peritoneum to that of the bladder.



DOYEN'S SELF-RETAINING SUPRAPUBIC RETRACTOR.

In 1897, at the Moscow Congress, Dr. Doyen introduced his method of performing hysterectomy by angiotripsy. He then devised his powerful lever forceps, with which a force of 2,000 kilogrammes can be secured at its end, and 4,000 kilogrammes in its middle portion. By such compression, exercised from 40 to 60 seconds, the vessels were completely crushed and bleeding prevented, but he continued to employ ligatures on the utero-ovarian vessels and certain pedicles, and, as he showed in his recent demonstration, he still uses ligatures subsequent to the compression. Both v. Landau and Schauta use the lever pressure forceps.

His suprapubic retractor is another most valuable means of exposing the tumour and assisting in its delivery, and his "*érigne helicoïde*" (corkscrew) is an improvement on the old corkscrew of Tait.

In vaginal hysterectomy Doyen was an early pioneer in availing of morcellation in the removal of submucous fibromata, and his *tube tranchant*, or drill, was invented for still further reducing the size of the tumour. Discarding his old method by clamps, Doyen made use of his lever pressure forceps¹ for hæmostasis of the broad ligaments, subsequently applying ligatures, the latter embracing the entire broad ligament. In his vaginal hysterectomy for cancer, he divides his procedure into the following stages :—

First stage : Incision of the posterior fornix, opening of Douglas's pouch, and exploration of the pelvic cavity. Second stage : incision of the anterior fornix and separation of the bladder. Third stage : crushing of the lower and middle parts of the broad ligaments. For this purpose the forceps was applied on each side for from 15 to 20 seconds. The uterus could then be easily drawn down. Fourth stage : Anterior hemisection of the uterus, either by median or by V-shaped incision, and drawing down of the uterine fundus. For a small uterus the median incision sufficed to allow the fundus and the adnexa to be brought down ; for a larger tumour the V-shaped incision was employed. Fifth stage : Application of a pressure forceps on each broad ligament and separation of the uterus. Sixth stage : Crushing of the upper border of the broad ligament and application of ligatures. At first after the application of the crushing forceps, a silk thread was tied in the groove formed by it after it had been applied from 15 to 20 seconds. The use of the instrument ensured that the pedicle was relatively thin. As the threads were gradually tightened the assistant cautiously removed the pressure forceps. A single

¹ The drawing of this lever pressure forceps appeared in the JOURNAL of February, 1899 (Presidential Address).

thread thus embraced each broad ligament. Seventh stage : Peritoneal toilet co-aptation of the peritoneal flaps, and tamponnade of the vagina.

CARCINOMA, ADENO-FIBROMA, AND ADENOMA OF THE OVARY.

The ultimate results of cases of special interest are worth recording, so as to complete their clinical history and the result of operation. I desire to bring forward some through the pages of our Journal, and for the present select two.

At the July meeting, 1898, I showed two specimens, two removed from one patient. One was a very large solid tumour, a scirrhus carcinoma of the ovary; the other a solid pyriform, nodulated tumour, 4 inches in length by $7\frac{1}{2}$ inches in circumference, with a gelatinous area in the broad end of the tumour $2\frac{1}{2}$ inches in diameter. Histologically, the tumour resembled one shown by me at the Obstetrical Society, and on which a special committee reported that it was an adeno-fibroma. I was indebted to Mr. Targett for the pathological report. The operation was performed on May 31. The patient, as I at the time stated, suffered severely from diarrhoea for some time, but from this she recovered. She survived the operation about 5 months. The disease recurred in the omentum and bowel.

Fig. 2 shows the carcinomatous ovary; fig. 3 the fibro-adenoma.

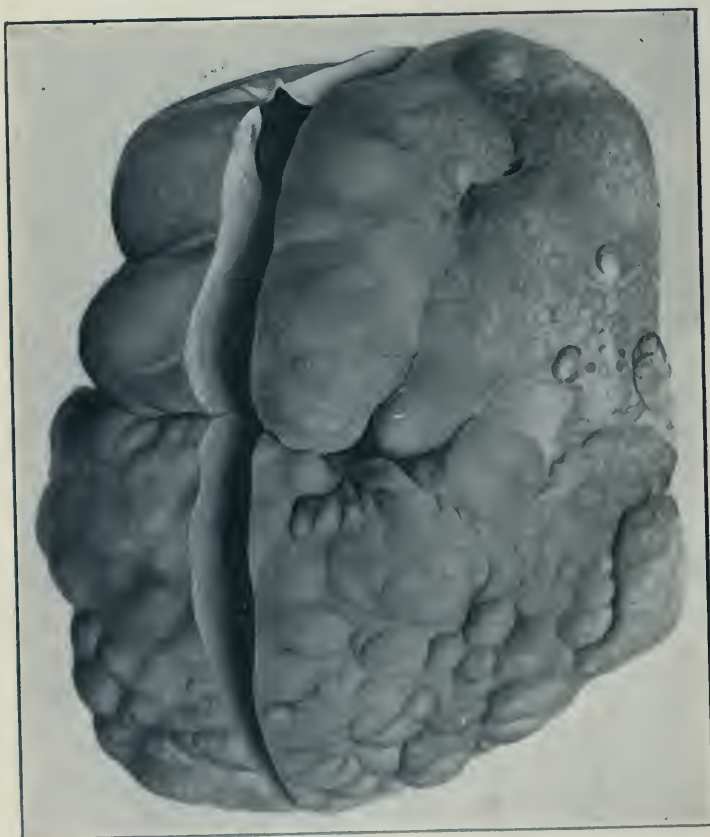
At the same meeting I read a case of ovarian cystoma, which was complicated with ascites, and which had by torsion of the pedicle caused peritonitis. This had spread into a most severe attack of general peritonitis. I operated as soon as the peritonitis subsided (10 days from the abatement of the symptoms). The cyst with the adenomatous mass was the size of an adult head (fig. 1). The tumour was attached to the peritoneum and bowel by extensive adhesions. In fact the entire tumour was covered by adhesions. The patient made an excellent and permanent recovery.

H. M.-J.



FIBRO-ADENOMA OF THE OVARY CONTAINED IN A CYSTOMATOUS TUMOUR-
MASS, SIZE OF ADULT HEAD.

FIG. 2.



SOLID CARCINOMA OF THE OVARY. SIZE OF TUMOUR, 12 INCHES
IN LENGTH BY 27 INCHES IN CIRCUMFERENCE.

FIG. 3.



FIBRO-ADENOMA OF THE OVARY REMOVED FROM SAME PATIENT
AS THE TUMOUR (FIG. 2).

REVIEWS.

SYLLABUS OF LECTURES ON HUMAN EMBRYOLOGY: An Introduction to the Study of Obstetrics and Gynæcology. For Medical Students and Practitioners. With a Glossary of Embryological Terms. By WALTER PORTER MANTON, M.D., Professor of Clinical Gynæcology and Lecturer on Obstetrics in the Detroit College of Medicine; Fellow of the Royal Microscopical Society, of the British Zoological Society, American Microscopical Society, &c., &c. Illustrated with seventy (70) Outline Drawings and Photo-Engravings. 12mo, cloth, 126 pages, interleaved for adding notes and other illustrations, \$1.25 net. Philadelphia: The F. A. Davis Co., 1914 and 1916, Cherry Street.

In the sub-title of this work the author claims for it that it is an introduction to the study of obstetrics and gynæcology. He might, however, very well widen his claim; for there is no doubt that embryology is the foundation of every biological science; and if it were taught more generally and more thoroughly in our medical schools, anatomy and physiology would acquire an interest and be learnt with a facility not attainable by any other means. Not only so, but the study of disease generally cannot be successfully pursued without at least some knowledge of embryology. To all this it may be added that this is one of the most fascinating branches of biological science, and we trust that Dr. Manton's little book will do something towards the wider spread of interest in the subject. Human embryology has been, until late years, a very difficult matter

for the student to understand ; there are so many hiatus, and material for practical work is necessarily difficult to obtain. The book before us is a clear and concise account of the stages of human development ; and will be found of special service to the teacher as well as to the student ; for it is not a systematic treatise, but a "Syllabus" in which details are to some extent left to be filled in ; a plan which is facilitated by the fact that it is interleaved throughout. The illustrations are mostly diagrammatic outlines ; they might with advantage be more numerous, and drawn on a rather larger scale, since drawings are of the very first importance in the teaching of embryology. It is hardly necessary to remark that the Syllabus does not take the place of a text-book on the subject ; but we should nevertheless like to see it somewhat fuller. The able author would render a conspicuous service to medical students if in a future edition he would fill out this little work to the proportion of an "Outline of Human Embryology," somewhat intermediate between the present work and the large text-books. We know of no such intermediate presentment of the subject, and it would fill a conspicuous gap. An etymological glossary of embryological terms is appended to the Syllabus, and it will certainly prove very useful. We can heartily commend the book, the modest price of which places it within the range of all students.

A. E. G.

THE MEDICAL DIGEST : Appendix, including the years 1891 to March 1899. By RICHARD NEALE, M.D.Lond., pp. 260 and xxxi. Price 15s. 6d. London : John Bale, Sons & Danielsson, Ltd., 1899.

It is not necessary at the present day to explain the purport and scope of the admirable work the appendix to which we have just received. The Digest now covers a period of nearly half a century, and forms a monument of stupendous industry, which is all the more remarkable as representing the relative leisure time in the life of a man in busy practice. The work was originally designed

to be the companion and guide of the busy practitioner who desires to keep himself *au courant* with medical progress. This aim has been amply fulfilled, as no doubt thousands of men could testify, who, in the midst of unostentatious and exacting daily work, in small towns and country districts far removed from libraries, have been enabled to grow with the times and keep their ideas and their methods up to date. These of our colleagues will need no recommendation of this Appendix from us ; to the minority of the profession who are not yet acquainted with the value of the work, we commend it right heartily.

A. E. G.

TRANSACTIONS OF THE AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNÆCOLOGISTS FOR 1898. Philadelphia : W. J. Dornan. 1899.

This volume is a report of the Proceedings of the eleventh Annual Meeting of the Association. A good deal of very useful matter is here gathered together, of which a detailed analysis is not possible, for want of space ; but it is also unnecessary, as the various papers have already appeared in the current journals. Suffice it to say that this record of work speaks highly for the activity and originality of the members of the Association, and amply justifies their annual meeting. Most of the subjects that are occupying the minds of gynæcologists to-day are represented in the volume before us, which is handsomely got up. The illustrations are not numerous, but they are very well done.

A. E. G.

ORTHOPÆDIC SURGERY : a Text-book on the Pathology and Treatment of Deformities. BY J. JACKSON CLARKE, M.B.Lond., F.R.C.S., Surgeon to Out-Patients at the North-West London and City Orthopædic Hospitals. With 309 illustrations, pp. 454. London : Cassell and Co., 1899.

Among the excellent text-books on orthopædic surgery this one will, we venture to think, find a permanent place.

An important claim which it possesses to this distinction consists in the attractive and thorough way in which the pathology of the conditions dealt with is presented. Mr. Clarke begins with a short description of congenital deformities, which forms a fitting introduction to the subject. Deformities due to disease of bones and joints and contractures of dermal, muscular and nervous origin are next dealt with ; and Part I. is completed by the consideration of general prophylaxis and therapeutics, symptomatology, diagnosis, prognosis, and treatment by exercises, instruments, manipulations and operations. Part II. deals with special orthopædic surgery ; the main headings of which are the deformities of fingers and toes, deformities affecting the distal joints of the limbs, deformities caused by changes in the long bones of the extremities, deformities associated with changes in the large joints of the limbs, and lastly, deformities of the spine, including torticollis and deformities of the thorax. Thus it will be seen that the general plan of the book is a good one, and it will be found to be admirably worked out in detail. The illustrations, many of which are outlines, are good and instructive, and that most recent ally in medical and surgical illustration, skiagraphy, has been employed freely and with success. The book is well got up and forms a handy and readable volume.

A. E. G.

A LABORATORY MANUAL OF PHYSIOLOGICAL CHEMISTRY.

BY ELBERT W. ROCKWOOD, B.S., M.D., Professor of Chemistry and Toxicology in the University of Iowa. Illustrated with 1 coloured plate and 3 plates of microscopic preparations, 5 $\frac{3}{8}$ by 7 $\frac{3}{4}$ inches, pp. viii. and 204, extra cloth, \$1 net. Philadelphia : the F. A. Davis Co., 1914-16, Cherry Street.

The author of this manual contends that in the teaching of physiological chemistry it is only by practical work that the student can acquire exact knowledge, and the Manual is the outcome of this conviction. In this view we entirely

concur, and we congratulate the author on the fitness of the work for the purpose intended. Directions for the proper carrying out of experiments are given concisely, and the dry bones of a laboratory directory are invested with living interest by a sufficient amount of description of the substances and of the reactions concerned. The work should prove useful both in University laboratories and in the home of the private student.

A. E. G.

A HANDBOOK WITH HINTS, PLAIN, PRACTICAL AND HOMELY, FOR THE NURSERY. BY J. MACLEAN CARVELL, M.R.C.S. Price 1s. London: George Barber, 1899.

This little brochure is composed of twenty-three pages of directions for the nursery, an appendix of instructions for the making of poultices, beef-tea, &c., an addendum consisting of a letter from a friend of the writer's with a comment thereon, and some thirty blank pages for "clinical notes" and "doctor's instructions." The text of the book appears on one side of the pages only, so that altogether a goodly volume is the result; the external appearance of which, however, is somewhat pretentious in proportion to the actual contents. The directions given for the feeding, clothing and hygiene of infants are sound and reliable, and will be found of practical value. The writer no doubt correctly anticipates that his short message to mothers will be more readily received by its presentation in an attractive garb.

A. E. G.

71st CONGRESS OF GERMAN NATURALISTS AND
PHYSICIANS—MUNICH, SEPTEMBER 17-23, 1899.

SECTION OF OBSTETRICS AND GYNÆCOLOGY.

ON PERMANENT CURE AFTER PROLAPSE OPERATIONS.

v. HERFF (Halle) reported the results of the various operations he had performed for the cure of prolapse of the vagina and uterus. In regard to simple prolapse operations such as colporrhaphy and perineorrhaphy: of these there were 137, 21 had afterwards borne children, the prolapse was cured in 77.1 per cent. of the cases, but in 37.2 per cent. only were the patients perfectly up to their work; there was descent of the anterior vaginal wall in 76.1 per cent., of the posterior in 21.4 per cent., and in 33.3 per cent. descent of the womb also. The recurrence was in 9 instances due to childbirth, in 36 to relaxation of the tissues, and in 12 to perineal trouble; 28 operations for prolapse, combined with operations on the collum and portio, 5 of the women afterwards bearing children, resulted in cure in 75 and complete capability for work in 50 per cent. In 41 cases a prolapse operation was combined with a vagino- or vesico-fixation; 16 of these women were afterwards delivered, some by obstetric aid—cure was obtained in 78.1, complete capability for work in 41.8 per cent. With ventro-fixation the proportion was 76.9 cures, and 53.8 complete capability. Finally, hysterectomy, combined with colporrhaphy or perineorrhaphy, brought only 51.7 per cent. cures, but complete capability in 55.1 per cent. v. Herff insisted on the necessity of vagino- or vesico-fixation in order to obtain a permanent cure.

ON THE PERMANENT RESULTS OF VENTRIFIXATIO UTERI
AND OF THE ALEXANDER-ADAMS OPERATION.

KOETSCHAU (Cologne) submits to treatment every mobile backward displacement in adult women, even when it causes no symptoms, because such displacement always interferes seriously with the equilibrium of the pelvic organs. Obstacles to permanent reposition indicate operation. No method of operation restores the normal condition of the parts. After the climacteric vagino-fixation may be considered, but is not justifiable during the child-bearing period, when the Alexander-Adams operation

is the proper treatment for a mobile retroflexion. This method of bilateral suspension of the uterus by the round ligaments has been materially improved by the modifications introduced by Kocher, Werth and Rumpf, but is only suitable when the uterus is quite mobile and unenlarged. Among 23 cases of operation since 1894, Koetschau met with five recurrences; among the 19 before 1899, 3 conceived and had easy labours. He operated formerly in Werth's way, latterly in Rumpf's. In fixed retroflexion ventro-fixation is far the best operation, for which the so-called intra-abdominal Alexander operation, *i.e.*, shortening the round ligaments by folding them on themselves, is, by reason of the unintentional deep fixation due to adhesions to the abdominal wall, no efficient substitute.

Koetschau performed 149 ventro-fixations before the end of 1898, and in 1899 12 more. He suspends the uterus at the junction of its fundus and anterior wall by means of two silk sutures carried right through the abdominal parietes, from 1.5 to 2 cm. apart, and 0.5 cm. deep through the organ itself. The fundus should not be fixed, for the uterus physiologically is movable in every direction, and it is to fixation of the fundus that the transverse positions so often met with after ventro-fixation have been due. To cause transverse positions or seriously difficult labour the fixation must be deep and broad. In 75 cases, to the end of 1894, there were, as far as he could ascertain, no recurrences and no death; 9 women had easy labours, 2 aborted. From 1895 to 1897, he did 35 ventro-fixations; 21 of these women conceived, 9 had quick, easy labours after a normal pregnancy; in one instance the forceps was applied to the head in the high position; one woman aborted three times; 11 of these women had been left adnexa on one side only. There was recurrence of one prolapse, but no fatal case. In 1897 to 1898, 35 cases without recurrence or fatality. After 23 conceptions (10 unilateral adnexa), 7 quick, easy labours, one case of version as in the woman's previous labours. The results of ventro-fixation must therefore be considered as quite satisfactory; retro-flexion did not recur in a single case, and the operation may be regarded as a permanent gain to gynæcology. As regards the Alexander-Adams operation as now performed, its permanent effects on the foregoing report may be described as satisfactory also.

COLPOCHIASMORRHAPHY, A NEW OPERATION FOR RETROFLEXION AND PROLAPSE.

Hr. SCHÜCKING (Pymont) has endeavoured to secure similar conditions to those afforded by a pessary, by the following method. A transverse incision is made at the junction of the portio and the anterior vaginal vault, and the mucosa is dissected

upwards and downwards with the handle of the scalpel; the horizontal incision is then stitched up perpendicularly. If the posterior fornix be so stretched that the lateral tension from the anterior is insufficient to keep the corpus forward, Schücking supplements the above by a sagittal incision in the posterior vault, united transversely. The wound forms a cross with the cicatrix, and he therefore has adopted the name chiasmorrhaphy from an older technic. In 7 cases of mobile retroflexion treated in this way satisfactory results were obtained in 5. In the sixth case the result was also good after secondary cicatrization. The seventh case was almost negative. He has tried the method also in a case of total prolapse with an elongated collum and cystocele, which could not be kept up by pessaries. The result was most satisfactory.

OPERATIONS FOR PROLAPSE.

THEILHABER (Munich) considers that more distinction should be made between vaginal and uterine prolapse. Voluminous prolapse is generally one of the anterior vaginal wall with secondary elongation of the cervix; primary prolapse of the posterior vaginal wall seldom assumes large dimensions. Primary prolapse of the uterus is very rare, as clinical observation shows, and as might be theoretically expected from the firm fixation of the uterus by the parametric connective tissue. It is this that prevents the descent of the uterus and not the vesico-uterine, recto-uterine or round ligaments, nor the peritoneum. The vaginal walls are fixed merely by the connective tissue beneath them, and when this atrophies prolapse takes place. Lacerations of the recto-vaginal septum have little to do with the origin of prolapse of the anterior vaginal wall, but relaxation of this septum is for the most part a consequence of prolapse. There is therefore no object when operating for prolapse in trying to strengthen this septum. On the other hand, anterior colporrhaphy is not to be made a subsidiary proceeding, but the incisions, as in malignant tumours, should be made in absolutely sound tissues. If portions of the prolapsed mucosa be left, cystocele again occurs and is not to be prevented by a very extended perineum, a very narrow vagina, or by a very strong recto-vaginal septum.

It is necessary, therefore, in very large prolapse to cut away the whole of the anterior wall of the vagina, while the posterior wall may generally be left alone. Plastic operations on the perineum are not always necessary, though Theilhaber generally narrows the ostium vaginae transversely by splitting the perineum. No recurrence has taken place in 22 cases operated on in this way, and kept under observation, some of them for four or five years.

Theilhaber does not correct retroflexion of the uterus; he thinks vagino-fixation of no use against prolapse, the benefit of ventro-fixation very doubtful, and total extirpation of the uterus never likely to be accepted as a method of treating prolapse of the vagina.

Typical colpo-perineorrhaphy is to be reserved for cases of posterior vaginal prolapse, the occurrence of which is favoured by the existence of perineal laceration.

Theilhaber sums up, operations on the uterus may do good in prolapse of that organ; plastic vaginal operations in prolapse of the vagina, colporrhaphia anterior in prolapse of the anterior wall, and colporrhaphia posterior and adding to the perineum, in prolapse of the posterior wall.

ZIEGENSPECK (Munich) described a new operation which practically is a resection of the M. levator ani. He considers that the widening of the aperture in this muscle through which the vagina passes is chiefly responsible for the occurrence of prolapse. After blunt dissection of the posterior vaginal wall from the muscle the latter is seen in shining tendinous folds, and is isolated by two strong catgut sutures. The rest of the operation resembles that of Frank: a curved incision is made at the posterior margin of the vestibulum along the junction of skin and mucous membrane, the wall of the vagina is bluntly dissected from that of the rectum in the septum recto-vaginale, and to avoid leaving dead spaces the flap so dissected is divided longitudinally; the wounded vaginal surface of one side is then brought into apposition with that of the other by buried sutures, and, finally, the rhomboidal wound in the perineum is closed.

COMBINED SECTIONS OF GYNÆCOLOGY AND SURGERY.
September 21, 1899.

THE SURGERY OF THE URETERS.

MARTIN (Greifswald). The results obtained by gynæcologists in operating upon fistulæ of the ureters have improved with the general advance in surgery. Vaginal methods of operation may in many cases be replaced by abdominal, and as regards their surgery, a distinction must be drawn between recent injuries of the ureters and fistulæ. The latter are most commonly due to injuries during childbirth, though sometimes to operations for myomata; they are more often caused by ligature or compression forceps than by the knife, and the injury too often escapes notice at the time of the operation. When an injury to a ureter is discovered during a vaginal operation the open end of the ureter should be stitched into the bladder. In abdominal operations Kelly's method of in-

vagination of the upper end of the ureter into the lower, and especially the implantation of the upper central end of the ureter into the bladder, have to be considered. Material advance has been made in operations for fistulæ of the ureters, which, on account of the cicatricial contraction are so extremely difficult to undertake, and because of the share generally taken by the kidney in the disease, offer so often an unfavourable prognosis. Mackenrodt's proposal to facilitate operation by the vagina by preliminary extirpation of the womb can only be accepted for women of advanced age. The abdominal operation for fistulæ of the ureters has been remarkably successful, a simple extra-peritoneal proceeding occasionally giving very good results, though sure to fail when the ureter is imbedded in cicatricial tissue, and therefore not to be attempted save in the absence of extensive cicatrices; when such cicatrices are detected before or during the operation, the ureter should in the first place be isolated from the peritoneal side, the wound in the peritoneum closed, and the ureter then led down under the peritoneum into the paravesical space, and stitched into the bladder, the end of the ureter being drawn 0.5 cm. into the bladder by means of forceps passed through the urethra, and fixed by two sets of interrupted catgut sutures. Martin, who reported cases of his own as examples of most of the methods he mentioned, illustrated this intra-peritoneal uretero-cysto-anastomosis by the detailed history of a patient in whom, during a radical abdominal operation, the left ureter had been injured, probably by a ligature, and in the course of her convalescence a fistula of the ureter developed. Martin ascertained by the sound and by cystoscopy that the lower end of the ureter had perished, but that the upper end seemed to be movable. Six months after the injury he tried, by the vagina, to sew the ureter into the bladder, but probably passed one of the threads too deeply, for a new fistula formed and could not be closed even by covering it in with vaginal mucous membrane. This operation was followed by an attack of uræmic intoxication, and the prospect of success of any operation was necessarily lessened owing to the extensive cicatrization it caused. An intra-peritoneal operation was nevertheless successful. The ureter was detached from its adhesions intra-peritoneally, from the end of the abdominal wound the peritoneum was separated from the bladder, and a way was, under the peritoneum, made from the fossa paravesicalis to where the ureter crossed the arteria iliaca. The slit in the peritoneum was stitched up, the abdomen provisionally closed, and the stitching of the ureter and the bladder completed extra-peritoneally; a strip of iodoform gauze was laid in the paravesical space.

WERTHEIM exhibited specimens from two cases of implanta-

tion. of the ureters into the bladder, not after accidental injury but after intentional resection. (1) A woman of 64 with a tumour the size of a hen's egg in the fundus of the bladder, the left ureteral opening being in the centre of the tumour. Wertheim opened the bladder above the pubes, and after removing the soft mass of the tumour with a curette, was able to pass a catheter into the ureter, where it was retained to the end of the operation. Through a transverse incision at the upper end of the wound above the pubes he made his way between the bladder and peritoneum down to the ureter, which the catheter made recognisable, and freed this ureter from its surroundings, divided it about 2.5 cm. from its vesical aperture, and secured the central end by a provisional loop of silk. When the tumour had been extirpated from the vesical side with the involved portion of the ureter. the central end of the ureter was drawn through the hole thus made in the vesical wall, fastened with fine catgut, and the hole itself carefully stitched up. It projected six or seven mm. into the bladder, an accidental result due to excessive caution in drawing it far enough in. This operation, perhaps the first successful of its kind, was done in 1895. To secure the woman from the effects of leakage at the seat of implantation, he made an opening into the vagina and inserted a drainage strip of iodoform gauze. The abdominal wound was then closed, except a small opening left for the passage of one of Dittel's bent syphon tubes. The patient recovered and the wound healed without interruption, though the woman, weak from age and from the operation, died a few months later of heart failure and marasmus. The left ureter was found entering the bladder at almost the normal. There was no sign of stenosis or dilatation in its entire length.

In a third case, in which the ureter was accidentally wounded in a myoma operation, Wertheim implanted the efferent end into the bladder 3 cm. above the original opening, and by subsequent cystoscopy, saw that a papilla projected 6 mm. into the cavity and regularly distended and discharged itself. The stitching of the ureter will not in his opinion hold, if there is any tension of the tissue, and if satisfactory stitching prove impossible the kidney should be removed.

DISCUSSION.

FRITSCH (Bonn). A sound may carry infection and the permeability of the ureter should be established by cystoscopy; he concurred that it was most important to avoid any tension whatever, and preferred Witzel's oblique method of forming the canal to Martin's double stitching. As it is very easy to extirpate a sound kidney, the more difficult operation for fistula should be avoided in decrepid women, or if the recurrence of cancer is certain.

AMANN, JUN. (Munich). The method of operation to be adopted depends on the nature of the injury. In recent injuries to the pelvic portion of the ureter, Witzel's method of intra-extra peritoneal implantation is to be recommended. In two uretero-cervical fistulæ I so obtained complete and permanently successful implantation of the ureter into the bladder. It also gives most excellent results in old fistulæ, as also in a recurrence of cancer after a total extirpation, which completely occluded the vesical opening of the canal, so that I had to resect a bit of the ureter and of the bladder wall.

The extra-peritoneal method of implantation has recently been greatly improved by Mackenrodt. In a number of cases, in order to remove carcinomatous recurrences after previous total extirpation, I have made my way forwards from the cavum Retzii, outside the peritoneum, and have been surprised with the facility with which the ureter can be exposed for a considerable extent, even when there are extensive pelvic adhesions.

It is not at all necessary to convert a uretero-cervical into a uretero-vaginal fistula by removing the uterus, as has been proposed with the view of facilitating the cure of the fistula; on the contrary, the uterus should be preserved, and may still perform its function. In the second of the above cases the woman conceived, and about three months ago had a normal labour.

MARTIN (Greifswald) has found that, instead of the projecting papilla mentioned by Wertheim, there has been a pulling out of the wall of the bladder from the traction effect, or as the result of his double stitching. In his opinion, extirpation of the kidney cannot in some cases be avoided.

PUERPERAL FEVER.

WINTERNITZ (Tübingen). The entrance of all kinds of bacteria, or the re-kindling of gonorrhœal processes, may cause fever not to be distinguished clinically from "puerperal fever." Döderlein found the uterus of normal child-bed to be germ free. Burckhardt found bacteria in 85 per cent. Winternitz of 200 women in normal childbed found 164 germ free, 36 with bacteria. When harmless bacteria are present the temperature may be normal or subfebrile with copious, and sometimes purulent, lochia. Normally the uterus is germ free. Burckhardt used bouillon cultures, which account for his mistake.

Of 51 women with fever in childbed, 18 with germ-free uteri suffered from intercurrent diseases; 18 of the 33 infected uteri contained gonococci.

DÖDERLEIN (Tübingen). Since the larger number of cases

of puerperal fever are due to streptococci, if we can exclude these we shall prevent half the cases of this disease, and, moreover, the more serious cases. Streptococci which may have been in the vagina are less dangerous than recently imported ones, especially when the latter have come from a very nourishing field and are extremely virulent. It is for this reason that disinfection of the hands is of such clinical importance. He approved of the Leipsic impermeable gloves made out of a single piece of india-rubber, and easily drawn upon the greased hand. It is only for operations that the vagina need be disinfected. Microscopic examination of the lochia is necessary for diagnosis. If streptococci be found they must be defeated by uterine irrigation, preferably with 76 per cent. alcohol. Injection of anti-streptococcic serum on the first day has been successful in Döderlein's hands against streptococcic fever. He very seldom, except when complicated by myoma, extirpates the septic uterus.

A NEW INFUSION SOLUTION.

By SCHÜCKING (Pyrmont).

In most cases in which resort is now had to the infusion of salt solution, we may exclude the idea of death being threatened, on purely mechanical grounds, by loss of blood, though it was on this idea that this method of treatment was developed. As long as there is time and opportunity for transfusion or infusion, an amount of fluid sufficient for the action of the heart can be furnished by the tissues or in some other way. But the normal salt solution, though generally so considered, is not as regards the heart an indifferent solution. It is necessary to use a certain amount of salt in order to secure the equal tension of the injected fluid with the plasma of the blood and thereby prevent any alteration in the volume of the blood corpuscles. An idea that the paralysis of the heart after great loss of blood might be due to the accumulation of CO_2 in the tissues led Schücking to look for some combination which would have the property of fixing this gas. The task of eliminating the CO_2 under normal circumstances is allotted to the paraglobulin, the alkaline compound proteid of the blood, and Schücking believes that saccharate of soda might take its place, inasmuch as this compound is split up by CO_2 into sugar and sodium carbonate, so fixing the CO_2 . He employs the saccharate in the form of a 0.03 per cent. subcutaneous injection with 0.6 per cent. of salt. He has previously reported on the efficient action of this injection, and now relates a case of the most severe form of puerperal disease, in which the injection of 250 grammes saved the woman after an alkaline salt solution had proved useless. He further discusses the uses of sodium saccharate internally as a substitute for other alkalies.

IRRITABLE BLADDER.

KNORR (Berlin) reported upon 63 cases presenting the syndromata of irritable bladder which he, in conjunction with Dr. Bierhoff, of New York, had investigated urologically and with the cystoscope. The occurrence of irritable bladder as a purely nervous disease in women appears to be very unusual, as in every case the bladder was in a pathological condition. The symptoms were due, in 30 cases, to chronic inflammation of the neck, complicated in 9, by pericystitis, in 1 by a fissure of the internal sphincter, in 2 by gonorrhœal urethritis, once by vesical ulceration, and three times by papillary new growths; in 6 instances there was hyperæmia of the fundus; in 4 phlebectasis, in 1 bullous œdema with parametric carcinoma, in 4 alterations in the bladder wall due to carcinoma of the uterus, in 13 pericystitis, in 2 cicatricial thickening of the bladder, in 2 cystocele and 1 bacteriuria. The treatment was in all cases local and generally successful. The use of the cystoscope and study of vesical affections is to be recommended to all gynæcologists.

TUBAL PREGNANCY.

FRANZ reported that in the last 5 years there had been 70 operations for extra-uterine pregnancy in the Woman's Hospital at Halle, including 43 cases of abortion, 18 of rupture, 4 unruptured tubal cases and 5 not exactly made out. In many instances the idea of salpingitis was suggested at the time of operation by the inflammatory changes found in the other tube, and it certainly seemed that predisposition to tubal pregnancy had been given by local disease which had itself passed away or was in process of cure. As regards the differential diagnosis between abortion, ruptured and unruptured tubal gestation, no conclusion could be drawn from the anamnesis or from the local signs of pregnancy in the breasts, vaginal mucosa, or uterus, which were only present in 14 cases.

The menses had ceased in 46 cases only. Hæmorrhage and pain nearly always occurred when the pregnancy was interrupted; hæmorrhage taking place in all but 4 of the interrupted cases. In deciding whether there was rupture or not, or abortion, the condition on palpation was the most important evidence, but the nature of the pain is not identical. When a tubal pregnancy is not ruptured pain does not occur until hæmorrhage into the tube has taken place, and it is then in character like colic; this was noted in one instance. Sudden rupture is accompanied by sudden abdominal pain. Pronounced cases of rupture with symptoms of collapse due to internal bleeding are not very common. They are of a type similar to the abortions which are accompanied with sudden pain and

collapse. In this category belonged 9 of the 43 abortions and 7 of the 18 ruptures. Pains of the nature of labour pains are very characteristic of abortion, but were only met with in 17 of the 43 cases. The condition on palpation in tubal abortion with hæmatocele does not give much information, so that the differential diagnosis from hydrosalpinx, pyosalpinx, pelveo-peritonitis, exudation, &c., is difficult. In rupture with internal hæmorrhage there is hardly any likelihood of confusion. Immediate operation is not necessary unless the sac is unbroken or is ruptured with copious hæmorrhage, otherwise expectant treatment is generally indicated. Laparotomy is the best method of operating, and is to be preferred even for hæmatocele; the results were satisfactory; 65 of the 70 cases were treated by laparotomy, there was one death from sepsis. Posterior colpotomy was performed in 4 instances and a total vaginal extirpation once. Five patients with severe internal hæmorrhage from rupture were saved by laparotomy.

SUMMARY OF GYNÆCOLOGY, INCLUDING OBSTETRICS.

AMENORRHŒA AND RAYNAUD'S DISEASE.

Professor BYERS of Belfast (*Lancet*, 1899, August 26), drew attention to the co-existence of amenorrhœa, Raynaud's disease and pulmonary tuberculosis in four cases under his own observation. Raynaud noted the relation of the disease which bears his name, to menstrual troubles, especially suppression, but not to tuberculosis.

ANÆSTHESIA.

McFARLANE FELLOWS (*Med. Chron.*, 1900, January) recommends a mixture of two parts of pure ether and one of chloroform in preference to the A.C.E. mixture, or that recommended by Dr. McCardie (*Lancet*, 1898, II., 1621), in which methylated ether is employed, and using a Clover's inhaler without any rubber bag, claims that there is no cyanosis salivation or excessive tracheal mucus, no bronchitis or broncho-pneumonia, vomiting did not occur in 46 of 101 cases, and was severe in only 4.

MATHES (*Prag. med. Wchnschr.*, 1899, No. 17) reports that in v. Rosthorn's Clinic, to avoid the use of chloroform, narcosis for the less important gynæcological operations, especially for curetting the uterus, is satisfactorily induced by ethyl bromide or ethyl chloride. Insensibility for from five to ten minutes is in most cases produced by 15 grams poured on the mask in two portions and is deep enough sixty seconds after commencing.

WESTERMARK, Stockholm. (*Hygea*, 1899, No. 6), mentions that in Scandinavia ethyl bromide has been used as an anæsthetic in 794 cases without causing any death directly or indirectly. He reports 3 recent laparotomies during local anæsthesia by the infiltration of sterilised solution of cocain. In the first, an immense ovarian cyst had led to great dyspnœa and cyanosis, in the other two there was organic disease of the heart. There was but little pain except when, in manipulating the tumours, the pedicles were put on the stretch. The inability of the patients to relax the abdominal muscles caused, even in the Trendelenburg position, troublesome protrusion of

the intestines. There was no trace of shock, and no patients after abdominal operations had ever seemed to him to be so well. He concludes that, while general anæsthesia is in complicated abdominal operations better for the patient and also for the surgeon, whenever it is contra-indicated local anæsthesia will enable us to save the lives of many patients on whom we should otherwise have to decline to operate.

KOBLANK (*Centralb. f. Gyn.*, 1900, No. 1) says that athetosis of the fingers is a premonitory sign of impending asphyxia in chloroform narcosis, which will indicate danger while the pulse and breathing are uncontrolled, and the pupils moderately dilated or contracted, but without reaction. The chloroform should be at once omitted, and if necessary the epiglottis brought forwards with the finger, a method well known but not often mentioned in literature.

ANTISEPSIS.

BUMM, of Basle (*Monats. f. Geb. u. Gyn.*, Bd. x., S. 333), denies Ahlfeld's statements that the hands can be made completely aseptic by hot water, soap and alcohol, basing his opinion on three months' experience in his own clinic, where for that time this method alone was employed. Rubbing the skin with sticks of wood or even with threads of silk is not a certain way of testing for bacteria; direct inoculation of epidermis, germ free according to such tests, produced large numbers of germs, and the difference is the more marked when the disinfected hand has been softened by wearing an india-rubber glove for some time, so that the germs which have survived the alcohol have been able to penetrate the deeper layers of the epidermis and the ducts of the superficial glands.

ASEPSIS AND ANTISEPSIS IN GYNÆCOLOGY AND OBSTETRICS.

By OLSHAUSEN. *Berlin kl. Woch.*, 1899. No. 45.

Although it is not possible to keep the vagina germ free for any length of time, infection of the peritoneal cavity from the vagina after operation is very rare. This may possibly be explained by the diminished virulence of vaginal bacteria. In liability to infection there is a very great difference between pregnancy and labour; indeed, in the former condition there is no danger at all if the finger is not passed into the inner os. Of all obstetric operations the most dangerous are the induction of premature labour and manual detachment of the placenta. In imminent danger the instruments and hands may be disinfected with alcohol only. A too sedulous disinfection during operation may, by prolonging the latter, increase the danger of sepsis. It is quite a mistake to suppose disinfection to be everything and technical skill to be no longer of much importance.

PREPARATION OF THE ABDOMEN FOR OPERATION.

A Bacteriological Study from the Gynæcological Department
of the Johns Hopkins Hospital.

By HENRY HARRIS. *Amer. Jour. of Obst. &c.*, 1899, October.

The surgeon is obliged to recognise the fact, that though he may sterilise by chemical means the surface of the skin, ridding it of many micro-organisms, the skin in its entire depth cannot be sterilised. The staphylococcus epidermis albus remains in the deeper parts. For operative purposes the methods now used for skin cleansing rid the integument of its dangerous forms. In the Gynæcological department of the Johns Hopkins Hospital the following is the method of cleansing the abdomen for operation. After the ward washing with soap and water, alcohol, ether, and 1 in 1,000 perchloride of mercury solution, a sterile gauze shield is fastened over the abdomen. In the theatre the sequence is lather and shave, then flush with water; wash with soap and water thoroughly, flush with ether, wash off with sterilised water. After this "partial" preparation the vagina is cleansed, then comes the final preparation: wash with soap and water, flush with ether, flush with alcohol, flush with 1 in 1,000 perchloride solution, and finally flush with sterile water. In the bacteriological examination attention was directed entirely to showing how far the methods of cleansing done before an operation succeeded in sterilising the superficial layer of the skin. The method adopted was as follows: a piece of medium-sized, sterilised silk suture is grasped at its ends in the two hands of the experimenter. An elevated fold of the abdominal skin is then made by one of the attendants grasping the skin in his two hands. The middle part of the silk suture is then drawn or sawed over this fold of skin five times. This middle part of the thread was then experimented with, and by this "draw-string" method the following results were obtained:

No. of Experiment	No. of Colonies after simply Ward Cleansing	No. of Colonies after "Partial" Cleansing in Operating Room	No. of Colonies after Complete Cleansing in Operating Room
1	102	40	4
2	10	5	0
3	15	9	0
4	Not taken	40	0
5	"	3	2
6	"	4	1
7	"	3	3
8	30	Not taken	1
9	20	"	0
10	Not taken	"	2

The chief points to notice are lessened growths from skin "completely" cleansed, and that growths do occur in about 60 per cent. from skin even after "complete" cleansing.

J. F. J.

ON THE PREVENTION OR ANTICIPATION OF SHOCK IN SURGICAL OPERATIONS. By B. G. A. MOYNIHAN.

B. M. J., 1899, Nov. 25.

In severe cases, likely to be followed by severe shock, the following preventive measures are adopted: The operating table is warmed by a current of hot water, strychnine is administered hypodermically before the anæsthetic and if necessary repeated during the operation. As much as 20 to 30 minims may be injected. Saline solution is infused during the operation.

THE USE OF GLOVES IN ABDOMINAL SURGERY.

By J. WESLEY BOVÉE. *Amer Jour. of Obs.*, 1899, October.

The author began about fifteen months ago to use rubber gloves for himself and chief assistant, and cotton gloves for the nurses handling the instruments and sponges. In but two cases has there been infection, both were bowel resections, and bacteriological examinations demonstrated the colon bacillus to be the only organism present. The cloth gloves are sterilised by moist heat. The rubber ones are boiled for five minutes in a 1 in 64 solution of carbonate of soda, the gloves being carefully filled with the same solution. They may be sterilised by submitting them to formaldehyde gas in a steriliser. The hands must, of course, be thoroughly cleansed as well, for the gloves may accidentally be perforated. The advantages of the rubber gloves are that not only the patient but also the operator's hands are thereby protected from infection. The author quotes Thomas: "Gloves for unknown assistants are excellent, as the awe of the gloved hands prevents assistants from feeling impelled to feel the patient's pulse, or open a door or window." After some practice it is quite easy to tie ligatures, handle instruments, or carry out any manipulative procedure. The author concludes thus: "The abdominal surgeon should consider their use as necessary as sterilisation of his paraphernalia."

J. F. J.

BACTERIA OF THE FEMALE URETHRA.

SCHENK and AUSTERLITZ (*Prag. med. Wchn.*, 1899, 17) conclude from examinations of 60 women that in more than half the cases the normal female urethra does not contain any germs. What are present in other cases are saprophytes of various kinds, immigrants from the vestibule; it is most unusual to find any pathogenic micro-organism.

SAVOR, Vienna. (*Beitr. z. Geb. u. Gyn.*, Bd. ii., S. 103)

found by numerous experiments that, in cases of old and recent gonorrhœa, the number of other bacteria present was much larger than in non-gonorrhœal cases.

In pregnant women (120) the urethra was germ free in only 24·8 per cent. After delivery the percentage was smaller. He concludes that, as one cannot after catheterisation be certain against cystitis, a very difficult affection to cure completely when the urethra contains germs, and as perfect disinfection of the urethra before the use of a catheter seems impracticable, prophylaxis demands antiseptic irrigation every time the catheter is used. Good results have been so obtained in Chrobak's clinic.

PRIMARY CANCER OF THE FEMALE URETHRA. By SCHRAMM.
Arch. f. Gynæk., Bd. lviii., S. 522.

In a patient, aged 56, cancer had existed for two years, and for two months there had been incontinence of urine. The author excised the whole of the urethra and peri-urethral tissue and the affected glands. The vesical sphincter was not involved and was left, and the woman recovered with some continence. She returned in six months with recurrence in the form of granulations which were removed with the thermocautery, and was afterwards lost sight of. The diagnosis was established by the histological examination of the part removed (cf. p. 461).

TWO CASES OF TUMOUR OF THE VAGINA.
By A. H. N. LEWERS. *Lancet*, 1899, Dec. 30.

A cyst, about the size of an egg, was removed from the posterior vaginal wall. Pathologically it was found to be unilocular, filled with a yellowish-white soft substance composed of shed epithelial cells, fatty and granular material. On chemical examination a little fat was extracted from it, leaving a considerable organic residue, the ash of which contained calcium phosphate in small amount. The wall was made up of laminated fibrous tissue, lined by a single layer of columnar epithelial cells. Nowhere were the cells stratified as in dermoid cysts.

The second case was a fibroid, thought originally to be one of the vaginal wall, but though entirely under the posterior vaginal wall it was found to be connected by a narrow neck with the substance of the cervix and at the operation a stump of cervical tissue had to be secured by deep sutures when this attachment had been cut through.

J. F. J.

PRIMARY EPITHELIOMA OF THE VAGINA.

ADENOT (Lyons), (*La Gynécologie*, 1899, p. 316) at the XIII. French Congress of Surgery exhibited a case of this rare affection which differed in course and anatomical charac-

teristics from primary vaginal cancer as generally described. The woman, a Jewess, was first attacked when about 40, and came under his observation about a year afterwards. She had had one child, had never worn a pessary, nor did her vagina show any trace of leukoplakia. In the upper third of the posterior vaginal wall there was a granular violet coloured epitheliomatous patch, somewhat larger than a two franc piece, without ulceration but feeling to the finger like the skin of an orange (like the skin affected by mammary cancer). It was hard and painful when touched. There was a band of sound tissue beyond it and the rectum was not affected. It was removed on December 17, 1896, and there has been no recurrence. The woman is in excellent health, and the local condition is quite satisfactory. On histological examination the growth proved to be a pavement epithelioma.

FORMALDEHYDE IN INOPERABLE CANCER. RANALLETTI of Rome (*Sem. Med.*, 1900, p. 10) has employed the siccative action of formaldehyde with very good results in cancer of the neck of the womb, and in wet gangrene. A 20 per cent. solution has a maximum effect, but the strength used must vary according to the extent of the disease and individual reaction; the sound tissue must be protected.

UTERINE SCLEROSIS AND CHRONIC METRITIS.
By MAURICE HEPP. *Thèse de Paris*, No. 441, 1899.

Many inflammatory affections of the uterus owe their origin to infection, puerperal, blenorrhagic or tuberculous, yet others, though they have certain characteristics common to such true metrites, are not in any way due to infection; they constitute, in the author's opinion, considering the anatomical and clinical results of the dystrophia of the uterine tissue, a special form of disease to which he gives the name of uterine sclerosis. These are in fact cases of uterine disease in connection with which no past infection can be found either in a childbed or gonorrhœa, and which cannot be attributed to auto-infection, as there has been no previous inflammation of the uterus which alone could be the source of auto-infection. To these chronic metrites, of which bacteriology reveals no cause, one must assign a pathogenesis independent of any infection. As infection of the uterus is commonly blenorrhagic, or still oftener puerperal, it is chiefly from patients who are virgins or sterile that the most cogent arguments are to be drawn. And as regards other cases, one must distinguish between the patients affected after, and those who suffered before, delivery. In the former it will be found that childbed has invariably been normal and apyretic, and that the disease has not shown itself for seven, ten, fifteen or

even twenty-five years after the last confinement, while puerperal metritis never remains latent more than two or three years at the outside.

In regard to patients whose disease arises prior to delivery, age is a very important point. Uterine sclerosis generally begins at one of the poles of the sexual life of woman, *i.e.*, at puberty or at the menopause. Even when no treatment has been necessary till an intermediate period, the patients have always suffered more or less from the time of first menstruation; moreover it will often appear that the discharge has been established with difficulty, accompanied by pain, profuse or prolonged. Furthermore, all women who are subjects of uterine sclerosis belong to the neuro-arthritic class; they complain of migraine, vertigo, flashes of heat, articular or neuralgic pains; their character is irritable or eccentric, and one often finds that they suffer from acid dyspepsia, perhaps with dilatation of the stomach.

The parenchymatous lesions of true metritis, the muscular atrophy with infiltration of leucocytes and vascular proliferation, accompanied by endometritis and perimetritis, are wanting in uterine sclerosis in which peritoneum and mucosa are unaffected, and the muscular tissue, far from atrophying, actively proliferates so that the sclerosed organ sometimes enlarges very considerably. As long as the physiological activity of the uterus persists this pseudo-metritis, characterised by a systematic perivascular sclerosis, tends towards hypertrophy; while true metritis, interstitial and diffuse, after a period of inflammatory enlargement, ends in atrophy owing to the formation of an internodular retractile tissue.

The process of evolution is not the same in all patients: in some the sclerosis is merely the final stage of a long series of accidents affecting the entire genital system; in others the disorders preceding sclerosis are less prolonged and less marked and crowded into the approach of the menopause, at which period, in either case, the development of the lesions may be arrested, or may even become retrograde, so that the morbid conditions which always precede and often end in uterine sclerosis appear clinically as independent phenomena. And this explains the proteiform aspect of uterine sclerosis, which may simulate every type of metritis—the virginal or hæmorrhagic, the parenchymatous, simple or painful, the supra-vaginal hypertrophy of the neck with prolapse, the giant fibrous uterus, or the fibromatous. To each of these morbid types corresponds a modification of uterine sclerosis according as the dominant factor of the common basis, is uterine congestion, telangiectasis, an hypertrophy of the collum, sclerocystic ovaries, relaxation of fibrous tissue, a general hypertrophy or a myomatosis of the corpus uteri.

Comprehensively reviewed, these morbid disorders form an ascending scale, at the bottom of which is the simple tendency to congestion of the uterus, while at the top stands the pure and complete type of established sclerosis, and giant uterus with or without fibromata.

The treatment of sclerosis differs from that required by infectious metritis; it consists in antiphlogistic and orthopædic measures, in limited conservative operations and such as induce atrophy, and if necessary total vaginal castration. Merely antiseptic treatment, the curette and superficial cauterly, are useless or aggravating and should be entirely avoided.

RETROVERSIO FLEXIO UTERI MOBILIS, ITS CLINICAL IMPORTANCE.

By KRÖNIG AND FEUCHTWANGER.

Monats f. Geb. u. Gyn., Bd. x., Hft. 6.

Less importance is now attached to backward displacement than formerly, some physicians going so far as to attribute all the complaints of those affected with it to hysteria enteroptosis or some other cause, and to abstain from any treatment of the displacement. Others advise that the uterus be restored to its normal position. Every endeavour to clear up this remarkable difference of opinion must be welcome, especially when the examinations are so carefully described as are those which are the basis of this work. Women with displaced uteri suffer to about the same extent and in about the same way, whether the displacement be forwards or backwards. A large number of women whose uteri are found in the normal position must be set down as hysterical, and so also many women who have retroversio flexio mobilis, but it is most improbable that the hysteria should depend upon the displacement. Women with retroflexion are just as often free from trouble as those with antelexion, and those with antelexions often suffer troubles attributed to retroflexion, which in many cases should be referred to hysteria, but it does not therefore follow that in all cases, if in any, these same troubles, when associated with retroflexion, are to be traced to a demonstrable hysteria. This is often enough proved by the effects of treatment, but no doubt the improvement attributed to the improved position of the uterus is sometimes merely a result of suggestion.

PRIMARY SCLEROSIS OF THE OVARY, AN OVARIAN DISEASE NOT GENERALLY RECOGNISED.

By W. H. HUMISTON. *Amer. Jour. of Obst.*, 1899, Nov.

The author lays special stress upon the distinction between primary, non-inflammatory, and secondary inflammatory sclerosis. In primary sclerosis there is no evidence about the tube and ovary of past inflammatory action, but there is marked

contraction, amounting to corrugation of the ovary; microscopically, the blood supply to the periphery is poor from contraction of the vessels, and the epithelial cells of the stroma are diminished in number and size, but there is no thickening of the vessel walls. The symptoms are:—The urine passed is above the average in quantity, and of low specific gravity with occasionally, traces of albumen; arterial tension is increased and the second aortic sound accented; there is indigestion and loss of appetite, a sluggish liver, and early fatigue with gradual supervention of neurasthenia; dysmenorrhœa or amenorrhœa, and intermenstrual dysmenorrhœic pains. This last symptom is always present and is most important. The author ascribes it to a mature follicle attempting to make its way through the ovarian cortex. The small hard corrugated ovary can invariably be felt. The subjects are usually between the ages of 20 and 30, and removal of the diseased ovaries seems to be the only means of relief.

J. F. J.

MAMMOTH OVARIAN TUMOURS.

By J. B. BULLITT. *Annals of Gyn.*, 1899, Nov.

In May, 1897, Dr. Cartledge, of Louisville, removed an ovarian cyst which with its contents weighed 245 lbs., from a woman who died on the seventh day after operation.

There are 23 other cases recorded in which tumours have weighed over 100 lbs. Of the 24, 21 were operated on. The average weight of the tumours was in 15, which recovered, 129 lbs.; in the 5 fatal cases, 181 lbs.

OVARIAN TUMOURS ORIGINATING FROM ACCESSORY GERMS OF THE SUPRA-RENAL CAPSULE. By PEHAM (Vienna).

Monats. f. Geb. u. Gyn., B. x., Heft. 6.

The author describes two ovarian tumours, histologically resembling the well-known malignant growths of the supra-renal capsules, and to be attributed to aberrant germs of these capsules. In his opinion these ovarian tumours must have had their origin in such germs which had wandered into the ovary or its immediate neighbourhood.

PERITHELIOMA OVARII CYSTICUM. By MIRABEAU.

Monats. f. Geb. u. Gyn., Bd. x., Heft 4.

The author characterises perithelioma ovarii as a new growth of a desmoid appearance arising from the adventitious tissue of small arterial vessels. These growths, offspring of the mesoderm, in spite of their somewhat epithelioid cell-structure, must be ranked with sarcomata, but as distinct from angio-sarcomata. Macroscopically they are of two types, the cysto-

papillary and solid tubulous. Of the women affected, 84 per cent. are under 50 years old. Two instances of an extremely malignant character affected children under 10. There is nothing special in the syndromata. Ascites is common but not constant. The growth, unless radically removed in an early stage, is rapidly fatal by recurrence or metastasis. The author discusses the histological structure of a specimen from a woman aged 62.

CHRONIC HYPERTROPHY AND DILATATION OF THE BLADDER
SIMULATING AN OVARIAN CYST. DEATH FROM URÆMIA.

By JAMES OLIVER. *B. M. J.*, 1899, Nov. 4.

For eight or nine months the abdomen had been enlarging so that it was occupied by a large globular swelling extending up to the ensiform cartilage. By means of a catheter and suprapubic puncture ten pints of urine were removed. The patient died in six hours from uræmic convulsions. The bladder was found enormously dilated and hypertrophied. The meatus was surrounded by dense fibrous tissue due to organisation of old cellulitic deposit. The ureters were dilated and there was considerable double hydronephrosis.

A CASE OF INTERSTITIAL MYOMA OF THE UTERUS.

By J. A. BUCK. *Brit. Med. Journ.*, 1899, December 30.

A dense myoma nine inches long and twelve inches in circumference, was, with great difficulty, removed by enucleation from the vagina, the patient died three hours after the operation. The tumour had arisen below the mucosa of the fundus and pushed the mucosa before it gradually effacing the uterine cavity and ultimately lying half in the vagina and half in the uterus.

J. F. J.

NOTE ON A TWISTED PEDICLE. By A. C. BUTLER-SMYTHE.

Lancet, 1899, Nov. 25.

This is an interesting note of a case of twisted pedicle in which the rotatory movement of the ovarian cyst could be seen through the abdominal wall. One prominent loculus could be seen moving from left to right.

J. F. J.

LIGATURE OF THE UTERINE ARTERIES FOLLOWED BY ARREST
OF EXCESSIVE HÆMORRHAGE AND SHRINKING OF A FIBROID.

By G. E. HERMAN. *Lancet*, 1899, October 21.

In this, the author's second case, the fibroid reached four inches above the pubes and there was considerable anæmia from excessive menstrual hæmorrhage. After ligature of the uterine arteries the menstrual periods were regular and rather scanty

since the operation, and during the twelve months she has been under observation there has been very well marked shrinking of the fibroid.

J. F. J.

A COMPLICATED CONVALESCENCE FROM OVARIOTOMY, WITH REMARKS ON THE ORIGIN OF PAROTITIS AFTER ABDOMINAL SECTION.

By JOHN D. MALCOLM. *Brit. Med. Journ.*, 1899, December 16.

A cystoma of the left ovary, with a twisted pedicle, was removed from a patient, aged 64, with tortuous atheromatous arteries. Purgatives administered for two days previously, caused frequent evacuations of the bowels in the evening after the operation followed by very serious collapse, and the blood pressure became so low that for eight hours there was no secretion of urine. On the sixteenth day after the operation, the abdominal condition being quite normal, inflammation in the left parotid gland set in. There was discharge of pus into the mouth. At the end of the fourth week an abscess in the gland was opened and in a few days she was well. Dr. Malcolm thinks the parotitis was due to direct infection from the mouth as the ostium of the duct was in contact with a decayed tooth. He says: "It seems to me probable that a direct septic infection from the mouth may account for the parotitis in some cases, and perhaps in all. There is no doubt that the conditions under which the patient is usually placed contribute to the occurrence of such an infection." Owing to the dorsal position gravity tends to prevent emptying of the ducts. Owing to liquid diet the jaws are not moved much and the intermittent pressure of the muscles on the ducts is in abeyance. Stagnation is increased by the feverish condition inhibiting the secretion. This same condition also causes dryness of the mouth. All these factors favour the infection of the parotid gland by septic organisms in the mouth.

J. F. J.

UTERINE NEOPLASMS, THEIR VARIETIES AND RELATIVE FREQUENCY. By W. ROGER WILLIAMS.
Bristol Med.-Chir. Rev., 1899, December.

Of 13,824 consecutive primary neoplasms under treatment in four London hospitals, 2,649 were uterine, that is 19·2 per cent. of all, or 28·7 of the 9,227 which affected women. New growths of the uterus are in 59·30 per cent. of all cancerous, in ·08 per cent. sarcomatous, in 40·54 per cent. non-malignant, and in ·08 per cent. cystic. The ratio of malignant to non-malignant growths in the female system is 55:45; in the uterus 59:38: 40:62. Uterine sarcoma is remarkably rare, but the uterus is more

prone to non-malignant growths than other organs. The author attributes these peculiarities to the biological constitution of the tissues, alluding to the doctrine he has long advocated, that cancers are most prone to arise in localities where cells still capable of development most abound.

ON A CASE OF SARCOMA OF THE UTERUS WITH INVERSION.

By J. M. WILLIAMSON. *Lancet*, 1899, November 11.

From a patient, aged 80, a large sloughing mass presenting through the os uteri was removed piecemeal by ovum forceps, and on examination proved to be sarcomatous. Six months later there was a return of pain and hæmorrhage, and on examination a fungating mass was found which was continued through the cervix as a smooth thick pedicle. Further examination showed it to be a growth on an inverted fundus uteri. The growth was removed and the surface of the uterus curretted down to the muscle, but the inversion could not be reduced and the patient died three months afterwards from cerebral hæmorrhage. *Post-mortem*, the mucous surface of the uterus was found covered with spindle-celled sarcoma to the thickness of an inch.

J. F. J.

THE DIAGNOSIS OF TUBERCULAR PERITONITIS.

By E. ERNEST GALLANT, M.D. *Amer. Jour. of Obs., &c.*, 1899, October.

The conclusions that the author comes to are:—Tubercular inflammation of the peritoneum is met with at all ages, and is most common in early and adult life. It is most frequent in women, and between the ages of twenty and forty years. It most often originates in the pelvic sexual organs, and from that point may extend to the visceral and parietal abdominal peritoneum. As a primary lesion of the peritoneum, it resembles in its inception, subsequent history, and final outcome, the various forms of the same disease in other serous cavities. It may be secondary to tubercular disease in any other part of the body, especially the lungs and pleura. The most distinctive features of this disease are (a) a rather constant subnormal morning temperature, rising to the normal in the late afternoon, and a little above it at night; (b) hypogastric pain on pressure, and when walking or urinating; and (c) the presence of tubercle bacilli in the pulmonary, cervical, or vaginal secretions. Anæsthetic examination in pelvic cases will often aid in clearing up the diagnosis. A positive diagnosis other than by exploratory incision is, in some cases, impossible. Early abdominal section, evacuation of the fluid, removal of the original focus, carefully avoiding any attempt to break up intestinal adhesions, thorough

irrigation of the cavity with saline solution, and closure of the abdomen without drainage of any form, has been found on subsequent operation for other conditions, and on autopsy, to have resulted in permanent cure. When the disease is confined to the pelvis, removal of the original focus usually results in a permanent cure. When the fluid reaccumulates a second coeliotomy will be curative or prolong life. Tubercular disease in other parts, especially the lungs and pleura, is not a contra-indication to operation.

J. F. J.

SARCOMA OVARIÆ.

By ROXBURGH. *Glasgow Med. Jour.*, 1899, December.

A detailed report of four cases, in all of which there was severe epigastric pain and vomiting for some time before the other symptoms. Roxburgh attributes the vomiting to the absorption of toxins produced in the sarcoma, and, insisting on the importance of early diagnosis, urges vaginal or rectal examination in connection with these early symptoms.

OSTEOMALACIA, ITS ETIOLOGY AND TREATMENT.

By M. F. SCHNELL. *Zeits. f. Geb. u. Gyn.*, Bd. xxxix., Heft 3.

This essay is based on the observation of 32 cases at the Wurtzburg Maternity, from 1889 to 1898. The author distinguishes two forms of osteomalacia; the one developing slowly in multiparæ, commencing during one pregnancy, arrested at its termination to undergo exacerbation during its succeeding pregnancy, but amenable more or less to medical treatment; the other progressive form occurring at an earlier age, more acute in character and without any remissions, and not amenable to any medical treatment. In the etiology of the former, pregnancy is a chief factor; in that of the latter it is an accidental one, giving an impulse to the disease which thereafter progresses without interruption. Moreover, this progressive form may occur in virgins. Schnell reports such a case, and three others have been previously published.

Of the 32 cases above mentioned, 1 recovered spontaneously; 4 underwent Cæsarian section; 16 were treated with phosphorised cod-liver oil and salt-water baths; 11 were castrated.

The ovaries of 14 were examined after death, and all exhibited degeneration of the parenchyma and thinning of the Gräafian follicles; moreover these conditions were the more marked in direct proportion to the clinical aspect of the disease, the ovarian lesions being far more pronounced in the progressive than in the slower puerperal form of the disease. There is, therefore, a definite relation between the ovaries and osteomalacia, and the curative effects of castration justify the supposition that

the ovarian lesion is the starting point of the disease. It is true that in old women, and under various morbid conditions, one finds the ovaries in an atrophied condition, but Schnell believes that osteomalacia depends on alterations of these organs peculiar to itself. He points out that it is not the amount of alteration of the skeleton, however considerable, but the mode of evolution of the disease that determines its gravity. In the slow form of the disease he recommends two to three teaspoonsful of cod-liver oil with .001 of phosphorus daily. If benefit comes from this at all it will soon show itself. In the progressive form the only hope is in castration, which according to the author always leads to mitigation of the patients' sufferings in from three to fifteen days; the bony framework then recovers its solidity with little delay, and within six months the patients may resume work and consider themselves definitely cured. Schnell concludes that castration suppresses the cause of the disease, the genesis of which he explains as follows: the ovary by its internal secretion exercises a certain action on the system; that secretion may undergo such a change as to act prejudicially on the processes of assimilation and dis-assimilation, especially on such processes as affect the bones.

RETRO-PERITONEAL TUMOURS, WITH REPORT AND SPECIMEN
OF A CASE.

By RUFUS B. HALL. *Amer. Jour. of Obst.*, 1899, Nov.

The specimen was a fibroid, or possibly a fibro-sarcoma, of the uterus which, growing from near the cervix upwards behind the peritoneum, occupied the right side, almost filled the pelvic cavity and projected well into the abdomen. The patient, age 38, married 17 years, mother of two children, the youngest 13, had first noticed, eight months before operation, a small tumour in the right iliac region, not larger than a small orange; the only symptoms complained of were "a heavy, dragging feeling" and frequency of micturition.

The ovarian artery on each side was cut between two ligatures, and after the left broad ligament and the peritoneum above the top of the bladder and round to the tumour had also been divided, the bladder was pushed down. The uterine artery of the left side was then tied, the cervix cut across, and the uterine artery of the right side clamped, and the peritoneum over the tumour divided up to the incision made from the front. The tumour was then enucleated from below upwards. As there was free oozing the cervix was extirpated to make room for vaginal drainage. The dilated ureter passing over the top of the tumour was uninjured. Good recovery.

J. F. J.

LYMPHANGIECTATIC ADENO-MYOMA OF THE ROUND LIGAMENT.

By ROSINSKI (Königsberg). *Centrabl. f. Gyn.*, 1899, No. 52.

Clinically this tumour was one of those that, presenting in the iliac region, might be mistaken for hernia. The patient, a woman of 51, came under treatment for a uterine myoma, and an egg-shaped tumour was found in her left inguinal region. The uterus was extirpated by the vagina, and a week later there was inflammatory swelling of the inguinal tumour, which, on incision, resembled a recently inflamed cyst. Recurrence took place half a year later, when a cyst, the size of a plum, arising from the round ligament, was removed from the inguinal canal, and on histological examination had the character of a lymphangiectatic adeno-myoma.

THE INFLUENCE OF THE MENOPAUSE ON THE EVOLUTION OF PRE-EXISTING CARDIAC LESIONS. By M. A. KOSTKEVITCH.

Russk. Arch. Patol. klin. Med. i. Bakteriöl, St. Petersburg, January, 1899.

The cardiopathies of the menopause affecting women up to that period free from any disease of the heart have attracted much attention, but the influence of climacteric age upon lesions of the heart previously existing has not hitherto been much noticed. This paper is founded on the study of fifteen cases of various valvular lesions, all well borne up to the time of the menopause when, for the first time the troubles of compensation supervened. In most of the cases the morbid symptoms consisted in palpitations and dyspnœa appearing in paroxysms coincident with the menstrual periods; and menstrual troubles, anticipation, or retardation, increase or diminution of the flow, were noticed at the same time. During the intervals the cardiac troubles at first completely ceased, but afterwards as the menstrual irregularities became more marked the attacks of palpitation and dyspnœa increased in intensity and duration—became, so to say, subintrant and accompanied by tachycardia, an irregular pulse, dilatation of the arch of the aorta and ultimately œdema of the legs. These disorders of compensation proved fatal in two cases of mitral stenosis, and the autopsies proved that the anatomical alteration of the heart was not so far advanced as to have been necessarily fatal, so that Kostkevitch attributes the death to disorders of innervation, superadded to the valvular lesion.

When the critical period has been passed, the accidental effects it has determined in an already diseased heart may disappear completely and for ever. Women with sclerosed arteries but no valvular disease are least affected, according to the author, by the modification of the system at the climacteric, and next to them those with aortic insufficiency, while those with

mitral disease, stenosis or insufficiency, are particularly prone to suffer from the disorders of compensation. The faulty innervation of the heart and great vessels at the critical period of a woman's life may cause a true cardiopathy of the menopause, or, when disease is pre-existent, more or less serious symptoms of hyposystole. It may itself be due to reflex irritation from ovaries in retrogressive evolution, or to the suppression of the internal secretion of which the ovaries are the seat during the period of sexual life, but such explanations are purely hypothetical.

HÆMORRHAGE AND THE MENOPAUSE. By J. MILTON DUFF.
Amer. Jour. of Obst., &c., 1899, Nov.

Hæmorrhage is not a necessary concomitant of the menopause, and when it occurs, otherwise than as a menorrhagia in the true sense of that term, it is in ninety-five per cent. of the cases significant of a pathological condition. In all cases of persistent hæmorrhage, a careful physical examination should be insisted upon. "During the past three years I have interrogated, or had others do it for me, 482 healthy women over 52 years of age; of these only 39 gave a history of what could be termed a hæmorrhage during the menopause, and out of this number only 5 gave a history of hæmorrhage of any persistency. In 187 tabulated cases between 43 and 50 years of age suffering from uterine hæmorrhage, 19 were due to pregnancy, 48 to malignant disease, 53 to fibroids or uterine cysts, 10 to diseased endometrium, 26 to diseased appendages, while in 31 no positive diagnosis was made." In view of such statistics hæmorrhage during the menopause is very significant of disease.

J. F. J.

ENDOMETRITIS DOLOROSA. By SNEGUIREFF (Moscow).
Archiv. f. Gyn., B. lix., S. 277.

This disease, not a very uncommon one, affects the uterine mucosa, chiefly at the fundus or near the tubes on the inner os. It is always accompanied by congestion of the uterus. There are pathognomonic painful points on the first and second roots of the lumbar plexus, the hypogastric, colar and renal plexus. The prognosis is favourable. The author recommends leeches about the coccyx; dilatation and plugging the uterus and the curette. If these do not answer, hysterotomie sphincterienne anterieure after Defontaine.

LEUCORRHŒA AND ITS CURE BY LACTIC ACID. By SNEGUIREFF.
Münch med Wohns., 1900, S., 66.

The vaginal secretion under normal circumstances has an acid reaction to be referred to the lactic acid it contains, and this led Sneguireff to conclude that this acid had intrinsic

antiseptic and anti-bacterial properties. Experiments proved that profuse and stinking leucorrhœa, under irrigation with a 3 per cent. solution of lactic acid disappeared in a very short time, and that when introduced into the cervix or cavum uteri, lactic acid in substance or solution led to profuse shedding of epithelium, and the cure of symptoms of inflammation of the cervix and endometrium.

ECTROPION TREATED BY PERMANGANATE OF POTASH.

Professor GOUBAREV, Moscow, (*Sem. Méd.*, 1899, No. 10), has been induced by the good effects obtained by Kaczanorsky (St. Petersburg), in lupus by applications of permanganate of potash in fine powder, to try this drug in ectropion. The os tincae having been exposed by a speculum, and the mucous secretion covering the external orifice of the cervix carefully removed, the ectropion is touched with a swab of cotton-wool on a Playfair's probe, powdered over with permanganate of potash, and this probe afterwards is passed into the lower part of the cervical canal which is generally permeable. Under this treatment, absolutely painless, and repeated about every ten days, Goubarev has found leucorrhœa rapidly diminish, the ectropion recede and the cervix regain its normal appearance, even in cases that have proved refractory to repeated applications of the thermocautery.

FATAL INJECTION OF ZINC CHLORIDE SOLUTION.

By MAX SCHMIDT. *Monats. Geb. v. Gyn.*, 1899, June.

A young woman with endometritis was given three injections of 1 ccm. of 50 per cent. solution of chloride of zinc. A fourth injection—given, it is true, under unfavourable conditions—was followed by death in eight hours. The caustic solution had penetrated the tube and led to acute fatal perimetritis, although the fluid had not reached the fimbriæ.

Schmidt concludes that zinc chloride ought to be applied with a sound covered with cotton-wool and not injected with a Braun's syringe.

EXPERIENCES WITH INTRA-UTERINE VAPORISATION.

By ABRAM BROTHERS. *Amer. Journ. of Obstet., &c.*, 1899, Oct.

The author has had experience of forty-one cases treated by intra-uterine vaporisation. The result in five cases of profuse leucorrhœal discharge has not been encouraging. Eleven cases had been curretted one or more times for persistent or irregular uterine hæmorrhages without benefit. Nine of these were cured by vaporisation, though in two cases it had to be applied a second time. In twenty-two cases no anæsthetic was used, and

the patients were, with one exception, able to walk or ride home. The immediate effects have been a surprisingly complete absence of pain during the application of the super-heated steam, for a few days subsequently vague pelvic pains and a free leucorrhœal discharge which both completely disappeared. Three precautions are taken in the application: (1) thorough dilatation of the cervix; (2) limitation of the application to a period of between five and twenty seconds, and (3) the introduction of gauze into the uterine cavity at the completion of the application.

The author looks upon vaporisation as a useful addition to our present means of combating uterine hæmorrhage. A careful diagnosis must be made to avoid treating carcinoma or retention of placental *débris* by this method. Strict asepsis should be aimed at in its application.

J. F. J.

TWO CASES OF DYSTOCIA FOLLOWING VENTRO-FIXATION, ONE
REQUIRING CÆSAREAN SECTION.

By X. O. WERDER. *Amer. Jour. of Obst., &c.*, 1899, Nov.

These two cases are reported fully not as due to the mere fact of having previously undergone ventrofixation but as examples of what a faulty technique in the operation of ventrofixation may be responsible for. In the first case the fundus and part of the posterior surface of the uterus had been sutured to the abdominal wall, to the fascia as well as the peritoneum. As the result of firm union of the fundus to the abdominal wall only the posterior wall of the uterus was able to expand, there was a corresponding weakness of the muscular expulsive effort on the part of the uterus, and it was only after great delay, so great that preparations had been made for Cæsarean section, that the pains improved in strength and completed the labour. This success was due to the adhesions of the fundus giving way and so allowing the cervix (which had been very high up and directed backwards) to descend and present downwards.

In the second case there had been suppuration after the original ventrofixation, as the result of which there were very extensive adhesions of the anterior uterine wall to the abdominal wall and to the back of the bladder. When labour set in the pains were strong but ineffective and the cervix was high up posteriorly and undilated. The cervix could not be brought down. It was therefore necessary to deliver the child by Cæsarean section. The author thinks that, with a proper and carefully carried out technique, suturing the anterior wall of the uterus, below the fundus, to the abdominal fascia and observing every aseptic precaution, no untoward effects will follow even in future pregnancies.

After the menopause it may conduce to a better fixation of the uterus, without the fear of subsequent dystocia, if the fundus and part of the posterior wall of the uterus are fastened to the abdominal wall.

The author recommends ventro-fixation, combined with the necessary plastic operations, in cases of extreme procidentia or complete inversion of the pelvic organs, also in posterior uterine displacements complicated by chronic metritis with marked enlargement of the uterus.

J. F. J.

A SIMPLE, EFFECTIVE AND ÆSTHETIC OPERATION FOR
SHORTENING THE ROUND LIGAMENTS.

By H. W. LONGYEAR. *Amer. Jour. of Obst., &c.*, 1899, Nov.

The operation described here by Dr. Longyear was first brought to his attention by Dr. Kellogg. The points of merit claimed for it are "short skin incision; bloodless field; no mutilation of either ring and no slitting up of inguinal canal, and consequently no danger of future hernia; method of anchoring ligament accomplished by use of but one stay suture; no tissue is cut away; the ligament can always be found; the operation can be made in a short space of time, and the patient can be allowed to get up sooner than with other more mutilative operations."

The incision, one inch in length, is made just above and parallel to Poupart's ligament, the outer end of it being half an inch inside the internal ring, which can be located by remembering that the pulsation of the femoral artery can be felt just under it. The incision is down to the loose tissue on the tendon of the external oblique. Separate the wound transversely by retractors and clear away the loose tissue with blunt hooks. A field about one inch square is now obtained, the floor being formed by the tendon of the external oblique. A puncture is now made, one quarter of an inch in length through the tendon of the external oblique, at the outer aspect of the cleared space and just above Poupart's ligament. Through the puncture the blunt hook is inserted; it should be passed downward close to the floor of the inguinal canal, then inward and upward, and the ligament will then be brought out through the opening in the tendon. The ligament is now isolated from its surrounding tissues and is anchored to the aponeurosis by one buried kangaroo tendon. The wound is closed by fine catgut. The patient should be kept in bed for two weeks, and must wear a pessary, to keep the uterus in ante-version, for three months.

J. F. J.

VAGINAL SUTURING OF THE ROUND LIGAMENTS FOR RETRO-
VERSIONS AND FLEXIONS OF THE UTERUS.

By VINEBERG (New York).

Jour. of the Amer. Med. Ass., 1899, Oct. 21.

On the basis of 44 cases of vaginal stitching of the round ligaments operated on in the last three years, and followed up, the author considers that this operation is indicated in all cases of retroversion and retroflexion of the uterus in which a pessary cannot be borne. Disease of the adnexa is in itself no contra-indication, unless there be acute inflammation and infiltration of the broad ligaments, extensive adhesions or suppuration.

ON LIMITING THE NUMBER OF ABDOMINAL OPERATIONS ON THE
ADNEXA IN FAVOUR OF RADICAL VAGINAL OPERATION.

By SCHAUTA. *Archiv. f. Gyn.*, Bd. lix., S. 49.

As long ago as 1893 Schauta declared that in operations on the adnexa both ovaries, the adnexa of the other side and the uterus itself, should, if possible, be removed. At that time he looked upon the abdominal radical operation as the only possible method, but now, in publishing the details of his cases, and reviewing his results, he lays particular stress upon the permanent results of operation and insists on the superiority of the vaginal radical operation over the abdominal. Mild cases of inflammatory disease of the adnexa, without collections of pus, he treats most satisfactorily by baths, ichthyol, and similar measures. The combination of some symptoms with certain anatomical changes, in which experience has shown that complete return to the normal condition cannot be expected, and ascertained collections of pus, indicate operative interference. In 38 abdominal radical operations he had 81 per cent. complete cures—a most satisfactory result, and better than the permanent results of operations on the adnexa without removing the uterus, in which the cures were but 59·8 per cent. when the adnexa were removed on both sides, and only 23·5 per cent. when the extirpation was unilateral. There were, however, among these cases of total abdominal extirpation, 4 deaths (10 per cent.) directly due to the laparotomy, and this fatality led Schauta to adopt the radical vaginal operation, as soon as he was satisfied that ligatures could be nearly always employed, and the use of compression forceps confined to exceptional cases. Of 220 radical vaginal operations, six were fatal (2·7 per cent.). Subsequent observation of the others proved that 86·8 per cent. were completely cured. To some extent Schauta's views on the value of conservative and radical abdominal operations on the adnexa are supplemented, and supported by those vaginal operations in which

he removed one or both adnexa and left the uterus. Bilateral removal of the adnexa of this kind was done in one case only and with success; but in twenty instances in which the uterus was left, after removing the adnexa from one side only, there were three deaths (14·2 per cent.), and only 22·2 per cent. of permanent cures. It is in many cases impossible to avoid rupture of a collection of pus, and with Schauta's declared views of the danger of an influx of pus into the peritoneum, those methods must be the best which afford free drainage of the peritoneal cavity, *i.e.*, the vaginal radical operation and the vaginal extirpation of the uterus after removal of the adnexa on one side. After acknowledging Landau's services on this question, Schauta concludes that the vaginal radical operation is the best of all methods of operating on diseased adnexa; its mortality is least, and it gives the largest proportion of permanent cures. In very serious adhesion, especially such as it is impossible to separate from the vagina within view of the operator, the abdominal radical operation is worthy of consideration.

SIX CASES OF COLPO-HYSTERO-SALPINGO-OVARIECTOMY, WITH
EXTIRPATION OF THE BROAD LIGAMENTS BY A NEW PROCESS.

By NICOLETIS, of Nice.

Archiv. prov. de Chir., Paris, November, 1899.

The operation may be divided into four principal stages:—

(1) *Opening of the anterior cul-de-sac and separation of the bladder.*—The patient is placed in the dorso-sacral position; a wide but short valve speculum is placed in the vagina to depress the perineum. The os uteri is brought down and an incision made involving two-thirds of the circumference of the vagino-uterine insertion anteriorly. The bladder is separated from the uterus until the finger reaches the peritoneum, which then is divided, and the opening enlarged with the two index fingers. Bleeding is arrested and a sponge is introduced into the anterior cul-de-sac.

(2) *Opening of the posterior cul-de-sac.*—This is done by carrying an incision on the posterior surface of the vagino-uterine insertion, joining the two extremities of the anterior incision, separating the cellular tissue and opening Douglas' cul-de-sac freely. Bleeding is arrested and a sponge also placed in Douglas' pouch.

(3) *The broad ligaments are elongated and loosened and the uterus brought down.*—This is done by passing the finger over the broad ligament from before backwards and making upon it repeated slight tractions to lengthen and loosen it. The same thing is done on the other side, and by means of the tenaculum forceps holding the os, and two fingers passed over the fundus of the uterus, the latter organ is brought out of the vulva.

(4) The uterus is then incised in the median line and completely divided. Each segment is grasped by means of tenaculum forceps and twisted down so that the incised surface is brought into contact with the inside of the thighs towards the buttocks on its respective side, thus bringing into view the tubes and ovaries, which are then pediculated and excised, and the uterine segments, having been purposely retained in position as a guide for locating and removing the appendages, are lastly removed. The angles of the vaginal opening are now sutured to the pedicles of the broad ligaments, which thus support the vagina and prevent any prolapse of the bladder. The procedure is completed by packing the vagina with iodoform gauze. This operation has been performed successfully in the following cases :

CASE I.—Malignant tumour of the uterine cavity. Patient 45, had syphilis thirty years ago, and repeated metrorrhagia during last four months. Uterine cavity $5\frac{1}{2}$ inches. Diagnosed at first as hæmorrhagic metritis of the menopause. Curetting and microscopical examination established it to be a malignant tumour. Total vaginal castration June 15, 1898; in perfect health a year after.

CASE II.—Hæmorrhagic metritis following an abortion. Patient 28, dysmenorrhœa in third pregnancy, abortion at third month followed by hæmorrhagic metritis, cured by curetting, but succeeded by cicatricial obliteration of the uterine canal, with distension of the uterine cavity and tubes by the retained menstrual blood and cerebral complication. Operation and complete cure.

CASE III.—Epithelioma of the cervix. Patient 45, metrorrhagia and pelvic pain, body of uterus mobile. Operation, recovery, no return of disease when last seen.

CASE IV.—Double pyo-salpinx, poly-cystic ovaries, chronic metritis. Patient 23, had blennorrhagia at 19, followed by dysmenorrhœa and pelvic pain since operation, January 3, 1899. Last seen June 15 same year, cured.

CASE V.—Chronic metritis. Right pyo-salpinx with cystic ovary. Left parenchymatous ovaritis and cyst of the broad ligament. Patient 24, married at 20, when she immediately contracted syphilis and gonorrhœa, and although treated immediately, miscarried at the fourth month, six months after marriage, and afterwards had a second miscarriage at one month. A third pregnancy was carried to full term, but the child died of convulsions on the fiftieth day. She developed metritis, pyo-salpinx and ovaritis, accompanied by severe pain, which, notwithstanding an assiduous treatment, lasted over a year. Total vaginal castration was then decided upon and eventually cured the patient.

CASE VI.—Uterine epithelioma extending towards the right

broad ligament and vagina, with some encroachment upon the lateral and posterior cul-de-sacs. Operation. Result, complicated by a vesico-vaginal fistula which it is hoped may subsequently be remedied; no other accident.

P. Z. H.

HÆMOSTASIS IN THE TUBO-OVARIAN PEDICLE.

By T. BARKER EASTMAN. *Amer. Jour. of Obst.*, 1899, Nov.

The writer discusses the relative advantages and disadvantages of silk, catgut and the angiotribe, and concludes that: (1) The silk ligature is still used by many operators of ability. (2) A silk ligature of proper size has some advantages over catgut. (3) The silk ligature is the ligature for the beginner and infrequent operator. (4) Given an aseptic strong catgut ligature, it is perhaps the best for the skilful ligature tyer. (5) The angiotribe represents a step in the right direction but is not yet perfected.

Skene's electro-hæmostatic forceps which the author has used on many occasions acts by desiccating, not charring the pedicle. It does away with sloughing tissue beyond ligatures. It should be applied in the long axis of the superior border of the broad ligament, and on removal leaves but a small thin membrane of cooked tissue. There is no strain on the broad ligament so that patients are peculiarly free from pain after its use, and, in the opinion of the author, it lacks but little of being an ideal hæmostatic.

J. F. J.

TECHNIQUE OF ABDOMINAL HYSTERECTOMY.

By J. H. CARSTENS. *Amer. Jour. of Obst.*, 1899, Nov.

Every attention is given to secure asepsis, and the patient is placed in the Trendelenburg position. After the uterus is pulled out of the abdominal cavity, two large strong clamps are placed on each of the broad ligaments including the round ligament, outside of the ovaries, and as near as possible to the cervix. About one centimetre on the uterine side of the clamps and as far down as the latter extend, the broad ligaments are divided on each side. With a knife an incision is made across the uterus (a little above the attachment of the bladder) through the peritoneum. The bladder is separated from the uterus. Two more clamps are now placed on each broad ligament from where the others stop, downward to about the cervix. These control the uterine artery on each side. By cutting between the clamps and the uterus the latter is separated almost entirely. The slight attachment anteriorly and posteriorly to the vagina is severed and the whole uterus removed. The

blood-vessels in the four clamps are picked up and tied, and the clamps are removed. The peritoneum is fastened over the raw edges with a running catgut ligature. Where there is no laceration and the mucous membrane is healthy, the cervix is not removed.

J. F. J.

CHOICE OF METHOD FOR TOTAL HYSTERECTOMY AND SOME
POINTS OF TECHNIQUE. By B. SHERWOOD DUNN.
Amer. Jour. of Obst., 1899, Nov.

The author is in favour of abdominal hysterectomy in the majority of cases as giving the opportunity to see the greater part of what is being done, and favouring such accurate diagnosis, as renders complete operation possible with greater ease in overcoming complications and repairing injuries to viscera. The dangers of injuring the ureters and of hæmorrhage are less by this method, and, since raw surfaces are covered by peritoneum, there is less risk of subsequent intestinal adhesions. Vaginal hysterectomy has become the operation of choice for dealing with pus cases (including the enlarged and soggy uterus of metritic or puerperal origin), with or without complication of the appendages, for the removal of which it is, in the author's opinion, an ideal operation. This route respects the barrier which nature sets up between pus accumulations in the pelvis and the abdominal cavity.

J. F. J.

MAUCLAIRE, mentioned at Paris Surgical Congress, 1899, that in a case in which a vaginal hysterectomy for pelvic sup-puration had resulted in a large colo-vaginal anus, he operated from the abdomen, and the opening in the intestine being lozenge-shaped, passed his sutures longitudinally so as to increase the calibre of the bowel, a drain was inserted in the vaginal wound. And the result was successful.

THE RESULTS OF 107 CASES OF VAGINAL HYSTERECTOMY FOR
CARCINOMA UTERI PERFORMED DURING THE LAST SEVEN
YEARS.

By F. BOWREMAN JESSETT. *Lancet*, 1899, November 18.

Of the 107 cases of vaginal hysterectomy, 9 died from the operation. Three from shock, 2 from intestinal obstruction, and 4 from peritonitis. In about one-third of the 98 recoveries, there was early recurrence, in the majority there was freedom from recurrence up to the last time of seeing the cases. The great importance of making an early diagnosis in these cases is emphasised, and especially since in the author's opinion "malignant" cases are not infrequently cured by the operation.

nant disease of the uterus is in the first instance a purely local affection, and it is not till it has advanced and invaded the cellular tissues around that the lymphatic system is infected." Mobility of the uterus should be the chief guide in deciding when to operate. Preference is given to the ligature over the clamp method.

J. F. J.

ABDOMINAL *versus* VAGINAL SECTION IN THE TREATMENT OF
PELVIC DISEASE.

By O. G. PFAFF. *Amer. Jour. of Obst.*, 1899, Nov.

The author reviews several cases in which fatal results would have ensued, if operation had been done by the vaginal instead of the abdominal method. In contrasting the two routes he says:—"In the abdominal we do not get the proper drainage; this is only an occasional misfortune. In the vaginal operation we only require drainage in a small per cent. of cases, though we must tolerate it in all." Hernia of the abdominal scar occurs incomparably seldom contrasted with the vaginal removal of the uterus merely to make the field of operation accessible. Diseased structures may have to be dragged up through the peritoneal cavity, but this is no worse than entering the pelvic cavity through a non-sterile (?) route, the vagina. The removal of the uterus in bilateral disease of the appendages is strongly condemned, and the value of Pryor's statistics is directly impugned.

J. F. J.

THE AFTER-HISTORY OF EXCISION OF THE ENTIRE BREAST.

A RECORD OF 100 CONSECUTIVE CASES OPERATED ON BY
A. E. BARKER. By J. E. SIMPSON. *Lancet*, July 8, 1899.

Of the 100 cases 90 were malignant. Five died from the effect of the operation, three of them from septic trouble being among the earlier cases. Four of the 90 were cases of duct cancer and present a very good after-history. Of the 86 cases 23 are alive at the present time, 9 can be traced for periods ranging from 3 to 11 years, but no record of death can be found. The remaining 54 cases have died. Of those alive, intervals varying from eleven years and seven months to one year and one month have elapsed since the operation. Of the patients who died, the duration of life after the operation varies from seven years and eight months to seven months.

A summary of the causes of death gives the following: recurrence, 43 cases; lung trouble, 1 case; sciatica, 1 case; brain tumour, 1 case; bronchitis, 1 case; syncope, 1 case; and growth in the cord, 1 case.

The average duration of life in those dying from recurrence is twenty-eight months and seven days after operation. The duration of freedom from recurrence in those alive at present is forty-one months and nine days, as an average. These figures will be much below the correct average, owing to a great number having been treated comparatively recently and being still alive.

It is especially necessary that the axilla should be freely cleared of lymphatic glands and fat.

The statistics of this paper, a mere outline of which is given here, are well worth careful study.

J. F. J.

POST-OPERATIVE ACUTE TOXIC HYPEREMIA AND INFLAMMATION
OF THE KIDNEYS.

By F. F. SIMPSON. *Amer. Jour. of Obst.*, 1899, Nov.

The frequency with which abnormal constituents have been observed in the urine after operation on cases with previously healthy kidneys, points strongly to a causal relation between the operation, and preparation therefore, on the one hand, and kidney complication on the other. The experiments of Kemp show that ether has a specific effect upon the kidneys, lowering their blood pressure out of proportion to that of the carotid, that the quantity of urine decreases as narcosis becomes deeper and that albumen appears early and progresses with narcosis. In 749 cases of gynecological operations, examined in the Mercy Hospital, the average daily secretion for the first three days after operation was about fourteen ounces. In 642 of this number neither albumen nor casts were found before operation, after operation the urine of 175 of them contained casts, and of a few less contained albumen also. About 135 of these cases presented no constitutional symptoms. Thirty others, the majority having been operated upon for inflammatory conditions of the pelvic organs, presented pronounced evidences of systemic trouble. In ten the symptoms were alarming. One died.

Every major operation is followed by a diminution of the urinary secretion. The normal quantity is reached in ten days. The specific gravity is correspondingly high. In most cases there is merely a hyperemia of the kidneys, causing a trace of albumen and a few hyaline and pale granular casts, abnormal constituents which disappear in from thirty-six to seventy-two hours. The symptoms are more pronounced in about 16 per cent. of all cases in which kidney trouble occurs; the scanty urine continues and the abnormal constituents are in greater abundance and persist for some days or even weeks. Vomiting, which usually subsides within a few hours returns at the end of twenty-four, and varies with the impairment of function.

Nausea is more marked than in the primary vomiting. The author attaches much significance to this return of vomiting. In a few of the above instances the symptoms were serious, but unlike non-operative cases, there were no symptoms of uremia. Vomiting persisted or returned; the pulse became more frequent but less strong; the temperature was usually elevated and remained so; the abdomen was distended but not tender; peristalsis was sluggish; casts, at first only hyaline, became numerous and of every variety. Appropriate treatment usually gave relief, but two cases were fatal. The indications are the same as for any other acute inflammation of the kidney, but repeated enemata of normal salt solution are especially useful. Prophylaxis consists in promoting in every way the continued activity of the emunctories and in avoiding any undue exposure of the patient. The quantity of anæsthetic used should be the smallest possible, and absolute cleanliness of technique is essential.

J. F. J.

AFFECTIONS OF THE APPENDIX VERMIFORMIS AND GYNÆCOLOGICAL OPERATIONS.

By DÜHRSEN. *Archiv. f. kl. Chir.*, Bd. lix., Heft 4.

The author has found the appendix diseased in several gynæcological operations, especially when there have been adhesions between the small intestines and the pelvic organs, and when the right broad ligament has been much thickened. In severe pelvic suppuration he recommends the extirpation of appendix adnexa and uterus, and vaginal drainage. In complicated cases he employs the median incision. Inflammation extending from the appendix into the pelvis, through the ligamentum appendiculo-ovaricum, may lead to parametritis superior, and thereby to retroversion. Appendicitis may then cause a displacement of the uterus.

THE TREATMENT OF LESIONS AND DISORDERED NUTRITION OF THE INTESTINAL WALLS AFTER OPERATIONS INVOLVING THE PERITONEUM.

By OTTO ENGSTRÖM (Helsingfors).
Mittheil aus der Gyn. Klin., Bd. ii., S. 113.

Ten days after an ovariectomy the abdominal wound had reopened, and six days later Engström removed with a curette the granulations covering a prolapsed loop of intestine and succeeded in effecting reposition; the woman recovered. In several instances he has utilised the epiploon to strengthen the walls of partially weakened intestines, in one, in which the rectum had given way during the digital separation of adher-

ences between it and the uterus, and sutures could not be employed, the uterus returned to its previous position, completely filled up the wound; but a fæcal fistula opened on the 7th day which took several months to cure.

INTESTINAL ADHESIONS IN SUPPURATIVE PELVIC DISEASE;
THEIR SIGNIFICANCE AFTER VAGINAL HYSTERO-SALPINGO-
OÖPHORECTOMY.

By F. BLUME. *Amer. Jour. of Obst., &c.*, 1899, Nov.

Dr. Blume discusses most impartially the present state of opinion on the treatment of suppurative pelvic disease. Of the vaginal radical operation he says, "if limited to those serious bilateral suppurative lesions which preclude conservative methods, it is looked upon to-day by many surgeons as a life-saving operation." In 51 vaginal radical operations there have been two cases of ileus. The second one, here reported, was as follows:—The operation, on May 31 last, was difficult, "the uterus being immovable and so friable that the forceps tore out at the least effort at traction. Scattered through the indurated tissue were numerous small pus cavities. Both tubes were large, but contained only a few drachms of pus. Their walls were friable and of enormous size." The patient did well till June 14, when symptoms of intestinal obstruction began to develop, and increasing, rendered an operation necessary. At this operation two coils of ileum were found obstructed by firm thin bands. On dividing these the distended part shrank and the collapsed part distended. Some other bands of adhesion were separated. Fifteen hours after operation the bowels were moved and the recovery was good.

In this case vaginal incision and drainage would have been useless; the removal of the pus sacs containing virulent streptococci through the abdomen would have been fraught with danger. The concluding sentences are instructive: "I have seen many women who, after abdominal section for pelvic suppuration performed in this country and abroad, were invalids, and I have done secondary operations upon a number of them. But neither have I been called upon to treat a woman upon whom vaginal hysterectomy was performed by another surgeon, nor have, to my knowledge, any of my patients required or sought treatment at the hands of other operators."

J. F. J.

INTESTINAL OCCLUSION IN PREGNANCY AND LABOUR.

By M. L. MEYER. *Monats. f. Geb. u. Gyn.*, Bd. ix., Heft 2.

The author relates three cases of ileus complicating pregnancy. In the first a loop of intestine was found to be strangulated in an opening in the broad ligament; the patient was safely

delivered a short time after the laparotomy. In the second case the transverse colon was constricted by a congenital anomaly of the mesentery, and the woman succumbed when operated on after delivery. A third instance of ileus at term ending favourably may be attributed to simple coprostasis, or quite possibly to a volvulus of the sigmoid flexure. Apart from strangulated hernia, Meyer points out that strangulation of the intestine is a rare complication of pregnancy and labour, occurring only twice in 50,000 cases at the Copenhagen Maternity, and as far as he can gather, recorded only thirteen times before his 3 cases. In 3 of these 16 the cause of strangulation was not discovered, in 7 it was due to a band or to peritoneal adhesions, 2 were instances of volvulus, 2 the results of uterine deviation; and 1 of an ovarian cyst; in the remaining case there was a stricture of the intestine. Ten patients of the 13 in which the cause of strangulation was discovered died; in the other 3 the ileus was treated without consideration of the pregnancy; while every case in which an attempt was made to treat the occlusion by emptying the uterus, or in which delivery was waited for or expedited, terminated fatally, even when laparotomy was performed after the birth of the child. Evacuation of the uterus never gave permanent benefit, though sometimes followed by passing amelioration, which was dangerous by raising false hopes and delaying intervention beyond the favourable moment. Meyer, therefore, concludes that the ileus should be treated independently of the pregnancy.

The author knows of only 3 cases in which labour has been complicated by strangulated hernia (2 umbilical); but this accident has been recorded twenty-seven times as occurring during pregnancy, M. Bar's case of incarcerated diaphragmatic hernia included. Meyer formulates the same rule of treatment for such cases as for ileus.

OBALINSKI (Heilkunde, 1899, April) says that whenever with the general symptoms of ileus, obstipation, vomiting, and hypogastric pain, there is local meteorism and increased peristalsis or either of these important phenomena, one is justified in attributing the occlusion to some mechanical impediment only to be removed by operation. Laparotomy should be performed within two or at most three days. Other cases of occlusion with general meteorism are to be treated by internal means, especially opium and clysters.

THE RIGHTS OF THE UNBORN—THE PREVENTION OF CONCEPTION.

By EDWARD J. TEE. *The Amer. Jour. of Obst., &c.*, 1899, Nov.

The author condemns the too ready acquiescence of the physician in terminating labour in cases of disease of the mother,

and then proceeds to describe the pathological conditions produced by artificial sterility. The symptoms are nervous and local. The latter precede the former. Among the local symptoms are increased mucous discharges from the genitals, frequent micturition, bearing-down pubic pain, pain in both iliacs and the small of the back. Standing and walking become painful, and from lack of exercise, constipation and disturbed digestion result. With failure of the general health, the nervous system fails, and there follow attacks of nervous prostration. The uterus is retroflexed, rarely retroverted, and the utero-sacral ligaments are so sensitive that they can barely be touched. The ovaries are enlarged, prolapsed and sensitive. Among the early symptoms is increased menstrual flow, later on it becomes less than normal. At this stage the patient has become a chronic invalid and permanently sterile.

J. F. J.

STERILIZATION OF WOMEN AS A PROPHYLACTIC MEASURE.

CATURANI (*Archivio Italiano di Gin.*, 1899, August), concludes from a study of the serious trouble arising from the occurrence of pregnancy in cases of chronic disease, that sterilisation is indicated in cardiac deficiencies, tuberculosis, grave anæmia, nephritis and diabetes.

CONTRACTIONS OF THE TUBES.

By v. STRAUCH (Moscow). *Centralblatt.f. Gyn.*, 1899, No. 42.

Thorn having recently published a paper on this subject (*v. ante* p. 320) v. Strauch recalls the fact that at the Brussels International Congress in 1892 he showed a preparation of a tubal pregnancy which had been operated on after rupture, as evidence of the occurrence of contractions of the tube. From a recent laparotomy he obtained another specimen in which the result of conception protruded into the abdominal cavity through the open end of the tube, and in the efforts of the tube to discharge its contents, as he supposes, the wall of the tube at the seat of the placenta has been inverted inwards. He considers that contractions of the tube must be admitted to be possible, but that they are very uncommon. In 127 operations for extra-uterine pregnancy he has only met with two indubitable examples.

FIVE CASES OF REPEATED EXTRA-UTERINE PREGNANCY.

By v. STRAUCH. *Rev. de Gyn. et de Chir. Abd.*, 1899, 1.

In the five cases here reported no serious affection of the genital organs had been detected anterior to the first ectopic pregnancy, and each of the patients had had at least one child. The intervals between the ectopic pregnancies varied between thirteen months and a little more than three years.

The interruption of each of the ten extra-uterine pregnancies had been spontaneous between the first and third month. As the author points out, the repetition of extra-uterine pregnancy in the same woman is by no means so uncommon as has been supposed, and indicates a special predisposition to tubal pregnancy, a primary condition for which is the capability of the tubal mucosa to be transformed into *caduca*—a capability which Mandl and Schmidt have suggested may not be universal to all tubes. In his opinion every extra-uterine pregnancy should be extirpated as soon as possible in the course of its development; even when the pregnancy has been interrupted either by rupture or abortion, if the woman has still to suffer the remains of conception, one ought to remove the gravid tube without delay. Laparotomy is the only satisfactory means of operating and securing complete hæmostasis, though cases of suppurating hæmatocele may be treated by vaginal incision.

COINCIDENT EXTRA- AND INTRA-UTERINE PREGNANCY.

By MOND (Hamburg). *Münch. Med. Wochens.*, 1899, No. 37.

Examining a woman with symptoms of internal hæmorrhage, Mond ascertained that to the right of the uterus, which was soft, and the size of a fist, there was a tumour reaching two fingers' breadth above the navel, of firm consistence and smooth surface. This tumour extended into Douglas' pouch, and, as the laparotomy showed, was due to a ruptured tubal pregnancy, while the condition of the uterus was supposed to be a normal pregnancy in the second month. The woman recovered, and was delivered seven months later of a properly-developed child. This combination, though very rare, shows that neither sound nor curette should be used to confirm a diagnosis of ectopic gestation until the possibility of an intrauterine pregnancy has been excluded.

EXTRA-UTERINE PREGNANCY PERFORATING THE BLADDER.

By HUC. *Bull. de la Soc. de Chir. de Paris*, T. xxv., No. 26.

In two women over 60 the bladder was opened by the *sectio alta* to remove foreign bodies that caused vesical trouble but could not be extracted by the vagina. In each case the nucleus of the concretions were foetal bones.

ECTOPIC GESTATION: SHALL THE CASE BE OPERATED UPON AT OR NEAR TERM, THE CHILD BEING ALIVE?

By L. H. DUNNING. *Amer. Jour. of Obst., &c.*, 1899, Nov.

The author reports a case of ectopic gestation of eight months duration operated upon five weeks after the death of the foetus.

On opening the abdomen on January 7, 1899, there was found a large fleshy-looking tumour, occupying the lower two-thirds of the abdomen and slightly more prominent on the left side. The uterus was attached to the anterior surface of the tumour by bands of adhesion. The fœtal sac seemed to have a covering above, and there was a space between the uterus in front and intestines behind of four or five inches, over which this covering of the sac was spread. The covering appeared like thickened musculo-peritoneal tissue from expanded broad ligament and Fallopian tube. An incision was made through the covering and the whole of the sac and its contents enucleated. The musculo-peritoneal covering was in front, above and to the left; the covering of the sac behind and on the right side being agglutinated intestine and omentum. The lower portion of the sac seemed to rest on the pelvic tissue. There was a considerable amount of oozing from the bottom and sides of the pelvis, which was only stopped by packing with iodoform gauze. The patient made a good recovery.

The settlement of the question whether operation shall be done before or after the death of a viable child hinges, in the author's opinion, on the relative mortality to the mother of the different procedures. He combines several tables, making in all thirty-three cases, in which nineteen mothers recovered and fourteen died, thus making the percentage of recoveries of mothers 57·7. The safety of the mother alone demands intervention, and it is more certainly sought by operating before the death of the fœtus than after.

J. F. J.

REPORT OF FOUR ADDITIONAL CASES OF UTERINE FIBROIDS COMPLICATING PREGNANCY.

By M. ROSENWASSER. *Amer. Journ. of Obst.*, 1899, Nov.

The author thinks that since the advent of abdominal surgery and antiseptic midwifery, the loss of mothers, in cases of uterine fibroids complicating pregnancy, ought not to exceed 10 per cent. The viable children ought nearly all to be saved. Whenever the tumour, on account of its location, will not interfere with delivery, or when its moderate growth will admit of delay till after the viability of the child, a conservative course is clearly indicated. A case of this nature was seen at the fourth month, delivery of a healthy child took place at full term. Nine months later hysterectomy was done for profuse hæmorrhage and pain.

Myomectomy for pedunculated fibroids is as safe as ovariotomy under the same conditions. In a considerable proportion of cases abortion will follow. After viability of the child myomectomy is indicated in preference to hysterectomy, when

it is desirable and possible to preserve the uterus, or when during labour myoma of the cervix obstructs the pelvis; if the tumour obstructs delivery and if the uterus must be sacrificed, the Porrs' operation is a safe procedure. If the child must be sacrificed in the interest of the mother, the choice lies between abortion and hysterectomy, and the author prefers the latter as being safer, since in abortion the hæmorrhage may become fatal or the fibroids may slough and lead to sepsis.

In two cases reported the tumour was located in the lower segment of the uterus so as to constitute a barrier to safe delivery. The patients were offered the chance of waiting till the viable period was reached but preferred immediate treatment. Supravaginal hysterectomy in both cases was done with good results.

After a safe delivery the sequelæ, such as hæmorrhage or septic infection, may be dealt with by the means usually employed when no tumour is present. If the hæmorrhage recur hysterectomy should be performed.

J. F. J.

RUPTURE OF THE SYMPHYSIS.

By JELLINGHAUS (Cassel). *Central. f. Gyn.*, 1899, No. 43.

A VII-para of 31 years, who had repeatedly suffered from articular rheumatism, was with great difficulty delivered, by version and extraction, of a child in a cross position presenting a foot. She was immediately sensible of acute pain in the symphysis and was unable to move her legs. Jellinghaus found the typical signs of ruptured symphysis and a laceration of the anterior vaginal wall, 5-6 cm. long. The laceration was stitched up and the pelvis immobilised with adhesive plaster. Bony union took place and locomotion gradually improved. Extraction itself can hardly rupture the symphysis, unless the joint be previously loosened—in this case, no doubt, by the rheumatism. Jellinghaus disapproves of Dührssen's proposal of cutting down and ligaturing the bone, and recommends, if vagina or urethra be injured, a bandage of adhesive plaster, otherwise a well padded one of plaster of Paris.

RUPTURE OF THE SYMPHYSIS. By SAVOR (Vienna).

Wiener klin. Wchns., 1899, No. 51.

At Chrobak's Clinic during the last twenty-two years and among 64,149 labours, there have been only three cases of ruptured symphysis, all in primiparæ (1) Pelvis justo minor, forceps, ovariectomy. The woman aged 32, recovered, walking well; (2) a woman aged 28, with an obliquely contracted pelvis, was delivered by forceps with moderate force, but the symphysis was ruptured and she died in thirty hours from sepsis and

anæmia ; (3) a rachitic case of eclampsia, rupture during craniotomy. Pelvic bandage, restoration of good walking power. The sacro-iliac articulation was not ruptured.

FURTHER HISTORY OF TWO CASES OF SYMPHYSEOTOMY.

By R. C. BUIST (Dundee). *Scot. Med. Surg. Jour.*, Dec., 1899.

(1) Frank's operation, February 28, 1897, in eighth month of fourth pregnancy, child lived thirteen days, former children all dead. Good recovery. Was delivered of twins August 17, 1899, in Walcher position, the first a breech case, the second by reversion. Mother and children's condition quite satisfactory. (2) Ayre's subcutaneous operation, March, 1898. Healthy child. Fibrous union only, yet mother was at work in a jute mill within three months. Second child born July, 1899, with the aid of a little suprapubic pressure in Walcher's position. The symphysis did not perceptibly dilate during labour.

SYMPHYSEOTOMY AND CÆSAREAN SECTION.

By GEORGE ABEL (Leipsic.) *Arch. f. Gyn.*, Bd. lviii., S. 294.

In the Leipsic Clinic, during the years 1887-1894, Cæsarean section was performed on 34 women for the first, on 14 for the second, and on 4 for the third time.

Symphyseotomy, including one repeated operation, was done upon 25 cases, all of which recovered completely after being under observation on the average three-and-a-half years. Perfect restoration of locomotion took from five weeks to ten months according to the amount of the disproportion between the size of the child and that of the pelvis. The way the pelvis was sutured had no apparent effect on the duration of recovery or upon the solidity of union ; the symphysis always retained some mobility, which, however, never interfered with the woman's work or locomotion ; the more smoothly the wound healed, especially that of the soft parts, the better was the ultimate result. Cicatricial shrinking sometimes affected the bladder and was the cause of any trouble resulting from the operation. After Cæsarean section, the wound healed without interruption in 21 cases, so that on the average the women were able to resume light occupation in six weeks, or hard work in eleven. When the wound was infected, as in 13 instances, they were not able to do so for nine or twenty weeks respectively. In 8 cases the capability for exertion was interfered with by abdominal hernia.

In the 14 women who conceived after symphyseotomy gestation was but little disturbed, and labour did not imperil the solidity of the pelvis or the power of locomotion. Repetition of Cæsarean section was not attended by any increased danger in the operation, nor was it more detrimental to the working power. Preventive sterilisation even in Cæsarean section for contracted pelvis must therefore be justified by special indication.

CÆSAREAN SECTION. By V. BRAUN-FERNWALD.

Archiv. f. Gyn., B. lix., S. 320.

In Braun's Clinic (Vienna) during the last ten years there have been 74 Cæsarean sections, 34 of which were conservative, and the child was alive; in the 40 in which the uterus was removed 4 children were dead, and 2 asphyxiated beyond help. The mortality of classical cases was 8·1 per cent., of the others 11·8 for the mothers, and 5 per cent. for the children. The proportion of Cæsarean sections to all deliveries at this Clinic has been 1:402; at Leopold's 1:225; at Chrobak's 1:901—5. The author lays no stress on any particular mode of incision or suture. He considers Cæsarean section indicated in the eclampsia of primiparæ when the child is very large; that pains need not be present for the conservative operation; that symphyseotomy is at least as dangerous and not so good an operation as Cæsarean section, and that in most cases, under the indications laid down by Dührssen, vaginal Cæsarean section may be performed with success.

CÆSAREAN SECTION.

COLE BAKER reported to the Irish Academy of Medicine (*Dublin Medical Journal*, Jan., 1900) a successful case of Cæsarean section in a woman pregnant for the eleventh time, by which he had delivered a female child, 9 lbs. in weight. Though the conjugata vera was only 6 cm., the woman had borne 4 live children, 2 still living, and though she had been in labour 40 hours she made a good recovery.

RUPTURE OF THE UTERUS; FŒTUS IN ABDOMINAL CAVITY,
CÆSAREAN SECTION, RECOVERY.By DOKTOR (Buda Pest). *Centralbl. f. Gyn.*, 1899, No. 52.

A woman of 30, with a contracted pelvis, had previously borne one dead, and one living child. In her third confinement, after twenty hours labour and fruitless application of the forceps, the uterus ruptured and after laparotomy was extirpated. During the operation she received thirty camphor injections, two litres of normal salt solution subcutaneously, and the peritoneum was washed out with sterile hot water. Recovery was complete save for an abscess in the abdominal wall and a vesico-vaginal fistula.

CÆSAREAN SECTION.

HOFFMANN, Darmstadt. (*Schmidts Jahrb.* 1900, No. 1), commenting on case of Schick's, in which a living child was extracted during the agony of a mother (meningitis basilaris tuberculosa) says: "The prospects of *post-mortem* Cæsarean

section put forward by Schick and others on the statements of Heymann and Lange in 1832 and 1847 are far too unfavourable. According to these authors, only six or seven children remained alive out of 331 cases. Against this may be set v. Winckel's statement (*Aerztl. Rundschau*, II. 5, 1892), after reviewing the published cases, that during the last thirty years eleven out of thirty-two children lived more than fourteen days.

VAGINAL CÆSAREAN SECTION.

KOETSCHAU (*Centralb.*, 1899, S. 1287) reported to the Munich Conference a vaginal extirpation of the gravid womb of a 40 year old VI-para about eight days before term on account of carcinoma of the portio. The median anterior incision extended beyond the inner os, then at either side, and behind as far as the insertion of the vaginal vault. Rapid and easy extraction of the child followed by total extirpation. He objects to the term Vaginal Cæsarean Section.

RETROVERSION OF GRAVID UTERUS: LAPAROTOMY.

MOUCHET (Sens) reported to the Academy of Medicine, April 25, 1899, two cases in which the retroverted gravid uterus, incarcerated in the small pelvis, caused acute pain and retention of urine after fruitless attempts at reduction; laparotomy in the third month and reposition with complete relief was followed by delivery at term without any complication.

RETROFLEXION OF THE GRAVID UTERUS. By DR. STUART ROSS.
Brit. Med. Journ., 1899, November 4.

A specimen shown at the North of England Obstetrical and Gynæcological Society. The pregnancy was of three and a-half months' duration, and retention of urine for one week. Six pints of ammoniacal urine were drawn off and the uterus replaced. Coma set in and the patient died in forty-eight hours.

J. F. J.

CASE OF HYDATID CYST IN THE OMENTUM OBSTRUCTING LABOUR: SUBSEQUENT ABDOMINAL SECTION AND REMOVAL.
By JOHN E. GEMMELL. *Brit. Med. Journ.*, 1899, December 9.

Under an anæsthetic the tumour was pushed up into the abdomen between the panis, forceps were applied and the child delivered. Five weeks later the tumour was removed and proved to be hydatid cyst of the omentum.

J. F. J.

ECLAMPSIA. By M. J. BAYER. *Monats. f. Geb. u. Gyn.*, x. 25, 1899.

This paper is based on fifty cases observed at the Cologne Maternity among a series of 4250 labours. Of the patients affected forty-three were primiparæ, the greater number of rather advanced age, and in six instances the pregnancy was one of twins. Albuminuria is noted in all, often accompanied by temporarily diminished or suppressed secretion.

The etiology of eclampsia being still obscure, Bayer thought right to try the various methods of treatment which have been successively recommended. He concludes that morphia is often efficacious and, when the cerebral symptoms predominate and reflex excitability is exaggerated, should be given in large doses; it is especially indicated when the convulsions commence after delivery. The prolonged use of chloroform compromises the safety of the child and induces cerebral anæmia in the mother, and is not to be recommended. The diaphoresis induced by hot baths followed by wet packing has a good effect on eclampsia and seems to stimulate labour; Bayer is in favour of early venesection, followed by injections of salt water.

Operative interference, though not indicated by statistics, cannot always be avoided, but rupture of the membranes is often sufficient even when the os is little dilated. If rapid delivery seems necessary, Bayer goes on to make deep incisions in the neck of the uterus as he has done in ten cases, and six times successfully. The hæmorrhage from these incisions is rarely severe, and in its way only amounts to a salutary blood letting. Cæsarean section he has as yet performed only in moribund cases in the hope of saving the child, yet thinks it should be done even at the beginning of labour whenever delivery by the natural way seems impossible without risk to mother and child. If the os has not begun to dilate, and there are no labour pains, we should be careful to dilate the os sufficiently to allow the discharge of the lochia, and to introduce a tampon of gauze to stimulate the uterus to contract.

HÖNIG (Viltenez) has in three cases of eclampsia definitely arrested the convulsions by anæsthetising the patients with mixed ether and chloroform, and then injecting .02 centigrammes of morphine into each forearm.

THE INDUCTION OF PREMATURE LABOUR: METHODS AND INDICATIONS. By HEYMANN.
Archiv. f. Gyn., Bd. lix., S.

On the basis of 107 cases in Mermann's clinic at Mannheim, the author insists on the advantages of Krause's method of introducing, without any preliminary disinfection of the vagina, an elastic bougie completely into the uterus beyond the internal os, and leaving it there, if necessary, for four days.

THE ANATOMY OF THE HUMAN DECIDUA. By BLACHER.
Archiv, f. Gyn., Bd. lix., S. 314.

The placenta is formed by the rapid hyper-plastic development of a capillary network of uterine mucosa into an organised arterial and venous system, in the septa of which arterial capillaries and chorionic villi are also suitably developed. The intervillous spaces also become true capillaries.

THE ANATOMY AND DEVELOPMENT OF THE PLACENTA. By LEOPOLD, BOTT (Wurzburg), and MARCHESI (Palermo).
Archiv, f. Gyn., B., lix., S. 516.

From the examination of an ovum seven to eight days old and five uteri with ova, removed in the second or not later than the fourth month of pregnancy, the authors conclude that formation of the decidua capsularis depends upon the attachment of the ovum to the uterine mucosa. According to Graf Spee (in rabbits) and Peters (in women two to three days after conception) the ovum bores its way into the mucosa. Upon the free upper edge of the capsularis one may in early stages see the openings of some glands. The tissue of the serotina becomes decidua early in pregnancy, but remains almost unaltered till the second month, when the cells of the spongiosa arrange themselves longitudinally, the compacta becomes a uniform mass with faint nuclei, and a superficial layer is formed by a sheet of fibrin. Glands with a definite epithelium can be indicated till the end of pregnancy. The connexion of the maternal vessels with the intervillous spaces takes place partly by rupture as in menstruation, partly by the active advance of the villi. There is no true serotinal epithelium, as the remains of the investments observed are to be considered syncytium detached from the neighbouring villi, the syncytium may perhaps invest the whole serotina by degrees, and all the intervillous spaces be entirely divested of foetal tissue. In Leopold's seven to eight days ovum there were blood vessels in the finest villi.

PROLAPSE OF THE PLACENTA.

HAAKE (*Archiv. f. Gyn.*, lviii., 3), relates a case of premature detachment and extrusion at term of the normally inserted placenta, the head of the child being still movable above the brim of the pelvis. There was severe hæmorrhage and rupture of the uterus seemed imminent; delivery was effected by the cranioclast. There were gonococci in the lochia and he attributes the accident to a blenorrhagic endometritis.

GASEOUS PUERPERAL SEPTICÆMIA. By DOLÉRIS.

La Semaine Médicale, 1899, No. 37.

For twenty years puerperal infection has been recognised as of bacterial origin, but we are still searching for means to oppose irregular forms of this disease, and those which have been neglected and reached an advanced stage. Strictly speaking, no form of septicæmia should be termed irregular; the streptococcus is the most common, but not the only organism to be dreaded in puerperal septicæmia, and the theory of its *polymicrobial* origin put forward by me in 1879 included that of *association*. That form of septicæmia defined by Pasteur as "putrefaction during life" depends on many infective agents, but principally upon the septic vibrio which I myself described in 1879 in its bacillary and filamentous form, and which was afterwards found by Tarnier and Vignal. In a putrefied fibroma in a pregnant woman I showed in 1883 this vibrio was present, and the peritoneal tissues contained a quantity of foul gas. Such cases of gaseous puerperal septicæmia are not very uncommon, in cases due to putrefaction of the ovum or dead fœtus, but they depend on anærobic microbes difficult to discover and liable to disappear from mixed cultures.

A primipara of 21, pregnant about eight months, complained on a Wednesday of pains in the right abdomen, labour began on Friday at 7 p.m. and she was rapidly and spontaneously delivered of an under-sized child. The midwife arrived late, broke the cord by traction, introduced her hand into the vagina and removed some clots and fragments of membranes and placenta. The patient was admitted into the Boucicaut Hospital about 6 p.m. The uterus, hard and contracted, reached 5 cm. above the umbilicus, there was a lacerated cervix, no external bleeding, temperature 38.2°. An expressionless face, a subicteric complexion, and almost complete speechlessness. A fruitless attempt was made to extract the placenta under chloroform. On Sunday morning I extracted the placenta, which was almost completely detached, mopped out the cavity with glycerine with 5 per cent. creosote, and washed out uterus and vagina with sublimate, dressing the cervix and vagina with iodoform gauze. The fœtid placental mass weighed 320 grams. Sunday was passed quietly, but she grew much worse during the night and died at 8.40.

Twenty-four hours after death the body was unrecognisable, the whole integument distended by a gaseous crepitating œdema of the cellular tissues, the skin was of an icteric hue, the inner sides of the legs, the abdomen, back, and under sides of the arms, covered with violet or wine-coloured ecchymoses; the face was quite black, and there was a discharge of blood from the nose. The peritoneal cavity was distended by fœtid gas, and a quantity

of bloody serous fluid surrounded the uterus, which was distended by gaseous œdema, and exhibited at the right side of the fundus a gangrenous patch as large as a crown piece. The internal organs were all similarly affected with gaseous œdema; the kidneys had long been diseased. Microscopical examination disclosed four varieties of bacteria—the vibrio of sepsis, large bacilli much thicker and shorter, *Streptococcus pyogenes*, and cocci in heaps (staphylococci?). Cultivations of the fluid from the peritoneum and of the blood of the heart both revealed the *Streptococcus pyogenes* associated with the *B. coli* com.

Inoculated rabbits died rapidly, but showed none of the effects of the vibrio of sepsis, and secondary cultivations disclosed the *B. coli* com. in large numbers. It is admitted that gaseous gangrene may depend on other pathogenic agents than the septic vibrio, indeed Chiari has ventured to attribute a case to the *B. coli* com. alone. But it was remarkable that we were not able to reproduce the gaseous œdema by inoculation in the rabbit, and that the peritoneal fluid from this woman contained a microbe closely resembling the septic vibrio of Pasteur, which was not developed by culture or inoculation, and possibly destroyed by the association of other microbes. This association has been previously recorded; with *B. tetani* by Nicolaier, and with *Streptococcus pyogenes* by Veillon. There was indubitably a characteristic filamentous organism in the peritoneal serosity of this woman, and we are justified in referring the gaseous œdema to this organism, its reputed agent, though owing to the extreme difficulty of obtaining anaerobic cultures we were not successful in reproducing it in this case.

NOTE.—The vibron septique of Pasteur is an anaerobic, liquefactive, motile bacterium, met with in surface soil, dust, putrefying matter, foul water, &c., and in the exudates produced by inoculating rabbits with garden earth; it is known as *v. pyogenique*, *bacillus septicus*, *bacillus œdematis maligni* (Koch), *microbe der gäsigen gangrän*e, and appears to be the same as the pink bacillus of spreading œdema (A. B. Harris).

ACUTE SEPTICÆMIA SUCCESSFULLY TREATED WITH MARMOREK'S SERUM. By R. DE SERGUEUX (Geneva).

Centraltb. f. Gyn., 1899, No. 50-51.

A I-para of 21, was attacked without apparent cause, by acute sepsis at the close of pregnancy, and there was no improvement in her condition after her delivery a few days later. A subcutaneous injection of 600 ccm. of normal salt solution was administered without benefit, whereupon 20 ccm. of Marmorek's serum was injected, and she gradually recovered. Though the author admits a doubt as to whether the salt solution or the serum did most good, he thinks that in desperate cases of general sepsis Marmorek's serum should be tried.

PUERPERAL FEVER.

AHLFELD, Marbourg, has in eighty cases of true puerperal endometritis and protracted (difficult) labour, when there was suspicion of infection employed intra-uterine injections of alcohol at 50 per cent. with favourable results. Fever disappeared after one or two injections, and the patients escaped any serious uterine affection.

In Switzerland during the five years, 1891-5, there were 2,900 deaths in 431,086 childbeds, and 1,536 of these, *i.e.*, 53 per cent. were due to puerperal fever, and constituted 5 per cent. of all deaths of women between the ages of 15 and 49. The other deaths in childbed were 212 abortions (143 septic cases) 28 extra uterine pregnancy, 207 eclampsia, and 917 hæmorrhage, &c.

THE GONORRHŒAL PUERPERIUM.

By CHAS. GREENE ARMSTON, M.D.

Amer. Journ. of Obstet., &c., 1899, October.

This paper is largely an exhaustive survey of the literature of the subject, at the end of which the author says: "From a careful perusal of a large amount of literature published on the subject in French, German and English, one thing stands out plainly, and that is that no definite symptomatology or manifestation of a gonorrhœal process during the puerperium can be described." No elevation of temperature occurs if the process does not extend above the internal os, and as Schauta remarks, "a gonorrhœal catarrh of the cervix may extend to the endometrium without giving rise to any serious symptoms." In some of the cases recorded there was an extension of the process from the uterine mucosa to the peritoneum without any elevation of temperature. If a rise of temperature does occur it may take place as early as the third day of the puerperium, though in the majority of cases quoted the rise of temperature occurs late in the puerperium. The acuteness of the progress of the affection in the early puerperium depends upon the virulence of the gonococcus, whether there be a mixed infection or not. Gonorrhœal infection during the puerperium runs a milder course than other septic processes occurring during the lying-in period. This milder course does not indicate that the process has been cured; the gonorrhœal puerperium is extremely chronic and defies treatment just as much as gonorrhœal processes in the female in general.

Purely clinical symptoms are not sufficient to base a diagnosis upon, the secretions must be examined bacteriologically.

A chronic gonorrhœal process of the cervix should not interfere with the entrance of spermatozoa within the uterine cavity,

because the cervical secretions are scanty. If the entire extent of the endometrium be invaded by the gonococcus the possibility of an impregnated ovum becoming attached to the uterine mucosa is slight. If the endometritis has become chronic, the cylindrical epithelium has become regenerated, and only a few spots of pavement epithelium invaded by the gonococcus remain; then pregnancy can take place and go at least to the seventh or eighth month. If, however, there is metritis with hypertrophy of the connective tissue, then the insufficient elasticity of the uterus will mechanically act against the development of the organ when pregnancy takes place, and the result will be an early miscarriage.

It is difficult to explain why a large number of women recover from gonorrhœal infection without the slightest trace of the disease remaining, while others, from the moment of infection, remain sufferers for the rest of their lives. Some inherent weakness of the epithelium may account for those cases where the process persists. "An infantile development of the female and her genital organs should also be considered an excellent soil for the development of the gonococcus, as has been pointed out by Freund, and reddish blonde and light blonde females are certainly more severely affected by gonorrhœal infection than are darker complexioned subjects, and here the diathesis of the individual certainly acts as a *locus minoris resistentiæ*."

J. F. J.

GONORRHŒA IN WOMEN.

NIEBERGAL, Basle (*Beitr. z. Geb. u. Gyn.*, Bd. ii., S. 52), gives four cases in which, although there were no subjective or objective symptoms of the disease, and no gonococci could be discovered microscopically in the secretion, an explosion of gonorrhœa was accidentally provoked by mechanical irritation (dilatation of the uterine cavity, curettage), proving that gonococci must have been still present. Dilatation and irrigation tubes have in his opinion the double disadvantage, when there is chronic infection of the cervical mucosa, that they not only lead the gonococci to proliferate, but open the way for their advance into the uterine cavity and favour the infection of the tubes. In suspected cases the use of the knife is to be preferred.

WHAT SHALL THE DOCTOR SAY TO THE PATIENT WHO, HAVING HAD GONORRHŒA, WISHES TO MARRY? By Dr. ERNEST KROMAYER. *Münch med. Wochensh.*, Bd. xlv., No. 24.

The great difficulty is that of being sure that the gonococcus has entirely disappeared, and so far there is no certain method of deciding this. Cases where ten bacteriological examinations have shown no gonococci have soon proved them-

selves still infectious when some excess in drinking or coitus has been indulged in. He concludes that :—

(1) Negative results of search for gonococci are no proof of the actual disappearance of gonococci; therefore a long-continued attempt must be made to remove the chronic inflammation of the urethra. All means must be united in this attempt.

(2) If this is not successful, and the patient will not undergo further treatment, the case must be placed clearly before him, so that he may decide for himself.

(3) If, after all, he marries under these conditions, he should be advised to be moderate in coitus, so as to avoid over-irritation and lighting up of the infection.

FRED EDGE.

ABORTION OF A DEGENERATED OVUM WITHOUT ANY EMBRYO, IN A PRIMIPARA.

CHARLES (*Journal d'Accouchement*, 1899, No. 35) relates the following case: In a woman of 22, in the sixth month of pregnancy, the development of the fœtus had apparently ceased several months earlier, corresponding to the fourth month only. She aborted, and an ovum was discharged 8 cm. long, and weighing 45 grammes; the membranes were intact, but no embryo at all could be found. Forensically the case is important, as even if the abortion had been a criminal one, the woman should not have been punished, for there was no viable product of conception.

A CASE OF PREGNANCY OCCURRING IN A PATIENT WITH A DOUBLE UTERUS AND A DOUBLE VAGINA.

By C. J. GLASSON. *Lancet*, 1899, November 4.

The abnormality in this case was first discovered through the septum in the vagina becoming stretched across the fœtal head and preventing its descent. The septum ultimately gave way above but the lower part had to be pushed to one side to allow the head to pass. On subsequent examination it was found that the septum extended throughout the whole length of the vagina in the median antero-posterior plane. Two distinct uteri could be felt with an ovary outside each uterus but no ovary between them. The menses had always been irregular, about every five or six weeks.

J. F. J.

THE LIMITS OF THE BODY WEIGHT OF VIABLE NEW- BORN CHILD.

By PIERING. *Monatss. f. Geb. u. Gyn.*, x. 3.

The smallest recorded weight is given by Ritter as 717 grammes, the largest child that lived by weight as 6,123 grammes, by

Hollen at 6,500 grammes; Ortega records a weight of 11,300 grammes, but the child was dead. Piering met with a case of twins, the smallest of which on the twelfth day weighed 1,020 grammes, the larger 1,400. By great care both children were kept alive.

HYDROA GESTATIONIS.

By A. J. HALL. *Quart. Med. Jour.*, 1899, Nov.

A report of a case in which this painful multiform quasi-symmetrical herpetiform eruption afflicted a woman after her sixth, seventh, eighth, and ninth confinements, appeared seven weeks before her tenth child, and in the fourth month of her twelfth and thirteenth pregnancies, to recur about a week after delivery. Arsenic was of little use, rest, regular meals, and locally dilute liq. carbonis detergens gave some relief. This disease, which has been called Herpes gestationis (Milton), Pemphigus hystericus (Hebra), Dermatite polymorphe douloureuse de la grossesse (Brocq), is by Duhring included in Dermatitis herpetiformis, by Brocq among Dermatites polymorphes. The author uses Tilbury Fox's name for it on the ground of the existing differences as to the group it belongs to. The case was under observation for a long time and is illustrated by good photographs.

INTRA-UTERINE CEREBRO-SPINAL MENINGITIS.

By GRADWOHL (St. Louis). *Phil. Med. Jour.*, 1899, Sept. 2.

At the autopsy of a woman who died from epidemic cerebro-spinal meningitis, the same pathological changes were found in the brain of the seven months' fœtus as in that of the mother; by bacteriological examination the *Diplococcus intercellularis* was present in both. Herwerden in 1893 published a case of intra-uterine meningitis in which the pneumococcus was found.

CONGENITAL DEFECT OF BOTH CLAVICLES. By HAMILTON, (Montreal).

Phila. Med. Jour., 1899, October 14.

An illustrated record of this rare malformation, of which only twenty instances have been published.

TRIPLETS INCLUDING AN ACARDIUS. By WOLFF.

Archiv. f. Gyn., Bd. lix., S. 294.

The acardius and one other fœtus were derived from a single ovum. This fœtus was the same length and a little heavier than the independent fœtus, but had a much larger liver and heart. The article is illustrated by a radiograph of the monster.

BOOKS RECEIVED.

- A Syllabus of Lectures on Human Embryology; an Introduction to the Study of Obstetrics and Gynæcology. By Walter Porter Manton, M.D. Philadelphia: The F. A. Davis Co., 1898. 5s.
- A Laboratory Manual of Physiological Chemistry. By Elbert W. Rockwood, B.S., M.D. Philadelphia: The F. A. Davis Co., 1899.
- A Handbook with Hints for the Nursery. By J. Maclean Carvell, M.R.C.S. London: George Barker, 1899. 1s.
- The Medical Digest, Appendix from 1891 to 1899. By Richard Neale, M.D. London: John Bale, Sons & Danielsson, Ltd., 1899. 15s.
- The Treatment of Pelvic Inflammations through the Vagina. By Wm. R. Pryor, M.D. London: Rebman, Ltd. Philadelphia: W. B. Saunders, 1899. 12s.
- Orthopædic Surgery: a Textbook of the Pathology and Treatment of Deformities. By J. Jackson Clarke, M.B.Lond., F.R.C.S. London: Cassell & Co.
- Transactions of the American Association of Obstetricians and Gynæcologists, vol. xi. for the year 1898. Philadelphia: Wm. J. Dornan, 1899.
- Ueber Puerperale Eclampsia und deren Behandlung. Von Docent Dr. Ludwig Knapp. Berlin: S. Karger. London: Williams and Norgate. 1s. 9d.

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- 1895 †CLARK, TOM, L.R.C.P. and S.Edin., 1, Westbourne Street, Eaton Square, s.w.

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- L. 1887 †CLARKE, THOMAS KILNER, F.R.C.S.Eng., M.D., M.A.Cantab.,
Surgeon Huddersfield Infirmary, 66, John William Street, Hudders-
field. C. 1895-7
- 1896 †CLAYTON, CHARLES HOLLINGSWORTH, M.R.C.S., L.R.C.P., 10,
College Terrace, Belsize Park, N.W.
- 1886 CLEGHORN, GEORGE, M.D.Dur., Blenheim, Marlborough, New
Zealand. C. 1893-5
- L. F.F. CLENDINNEN, FREDERICK JOHN, L.R.C.P.Lond., L.R.C.P. & S.
Edin., 495, Malvern Road, Hawksburn, Melbourne, Australia.
Hon. Loc. Sec.
- F.F. †COFFIN, R. MAITLAND, F.R.C.P.Edin., 3, Westgate Terrace, Redcliffe
Square, S.W.
- 1898 †COKER, OWEN COLE, L.R.C.P., L.S.A., 155, Uxbridge Road, W.
- 1899 COLE, J. M. COATES, M.R.C.S., L.R.C.P., Curaçao, Dutch West
Indies.
- L. F.F. COLE, RICHARD BEVERLEY, M.D., A.M., M.R.C.S.Eng., Ph.D.,
San Francisco, California, U.S.A.
- F.F. †COLEMAN, CHARLES ALFRED, M.D.Edin., Hill View, Streatham
Common, S.W.
- 1893 †COLENSO, ROBERT J., M.A., M.B.Oxon., M.R.C.S., 91, Cromwell
Road, S.W.
- 1890 †COLLINS, E. TENISON, M.R.C.S., L.S.A., 12, Windsor Place, Cardiff.
Hon. Loc. Sec. C. 1896-8.
- 1885 CONDON, JAMES HUNT, M.D. St. And., M.R.C.S., L.S.A., L.M.Dublin,
Brigade Surgeon Indian Army Medical Department, Cawnpore,
India.
- L. F.F. CORDES, AUGUSTE E., M.D.Paris, M.R.C.P.Lond., *Privat-Dozent of*
Midwifery, ex-chirurgien-ajoint à la Maternité, 12, Rue Bellot,
Geneva. V.-P. 1897-9.
- 1898 CRABBE, JOHN SANDISON, L.R.C.P. & S.Ed., Dundallen, Gravelly
Hill, near Birmingham.
- 1895 CRAIG, WILLIAM BEDFORD, M.D., *Visiting Gynæcologist to St. Luke's*
and St. Joseph's Hospital, Denver, and Professor of Gynæcology in
the University of Denver Medical Department, 122, East Sixteenth
Avenue, Denver, Colorado, U.S.A.
- F.F. CRANNY, JOHN JOSEPH, M.D.Dub., A.B., F.R.C.S.I., *Surgeon to the*
Jervis Street Hospital, late Examiner in Midwifery, Royal College
of Surgeons, Ireland, 17, Merrion Square, Dublin.
- F.F. CREASE, J. ROBERTSON, F.R.C.S.Edin., 2, Ogle Terrace, South
Shields.
- 1886 CRESSWELL, PEARSON ROBERT, F.R.C.S.Ed., C.B., *Surgeon Merthyr*
General Hospital, &c., Dowlais, Merthyr Tydvil.
- 1888 *CRICHTON, GEORGE, A.M. St. And., M.D.Edin., L.R.C.S.Edin.
- F.F. †CRIPPS, C. COUPER, M.D., M.R.C.S., 187, Camberwell Grove,
Denmark Hill, S.E.
- 1888 †CRISP, ERNEST HENRY, B.A.Camb., L.R.C.P., M.R.C.S., The Lawns,
Balham Hill, Clapham Common, S.W.
- 1891 *CROMIE, JOHN, L.R.C.P. & S.Edin.

Elected

- 1891 CROOM, JOHN HALLIDAY, M.D., F.R.C.P.E., F.R.C.S.E., F.R.S.E.,
*Physician to, and Clinical Lecturer on Diseases of Women Royal
Infirmary, and Physician to the Royal Maternity Hospital, Edin-
burgh, 25, Charlotte Square, Edinburgh. C. 1884-6. V.-P. 1887-9.*
- L. 1887 CROUZAT, E., M.D., *Professeur de Clinique d'Accouchements à la
Faculté de Médecine de Toulouse, Toulouse, France.*
- 1895 CUFFE, ROBERT, M.R.C.S., L.S.A., Woodhall Spa, Lincoln.
- 1898 CUMMING, GEORGE WILLIAM HAMILTON, M.D.Dur., M.R.C.S.,
L.R.C.P., Annandale, Torquay, S. Devon.
- 1896 *DARLEY-HARTLEY, WILLIAM, L.R.C.P.Ed., M.R.C.S.Eng.
- 1895 †DAUBER, JOHN H., M.A., M.B., B.Ch.Oxon., *Assistant Physician
Hospital for Women, Soho, 29, Charles Street, Berkeley Square, w.
C. 1900.*
- F.F. †DAVIES, ELLIS THOMAS, M.D., *Hon. Surgeon Samaritan Free Hospital
for Women, Liverpool, 97, Shaw Street, Liverpool.*
- 1895 †DE JERSEY, WALTER BROCK, B.A., M.B., B.C.Cantab., Netherton,
Waterden Road, Guildford, Surrey.
- 1897 †DELAMOTTE, PETER WILLIAM, M.R.C.P.Edin., M.R.C.S.E., Gresham
Lodge, Staines, Middlesex.
- L. 1887 DEWES, FREDERICK JOSEPH, L.R.C.P.Lond., M.R.C.S.E., *Surgeon
Captain Madras Army, care of Messrs. Binney & Co., Madras,
India.*
- L. F.F. †DINGLE, WILLIAM ALFRED, M.D. St. And., L.R.C.P.Lond.,
M.R.C.S.Eng., L.S.A., *Surgeon Royal Maternity Charity, 46,
Finsbury Square, E.C. C. 1889-91. V.-P. 1892-4.*
- 1887 †DINGLEY, WILLIAM, M.R.C.S., L.S.A., 277, Camden Road, N.
C. 1895-7.
- L. 1888 DIRNER, GUSTAV, M.D., 9, Kossuth Utoxa, Buda Pesth, Hungary.
- F.F. †DIXON, WILLIAM EDWARD, L.R.C.P.Ed., F.R.C.S.Ed., M.R.C.S.,
Oulton Lodge, Oulton Broad, Lowestoft.
- 1891 DODD, T. A., M.R.C.S., L.R.C.P.Ed., *Visiting Surgeon Newcastle-on-
Tyne Workhouse Hospital, 4, Eldon Square, Newcastle-on-Tyne.*
- 1898 DODSWORTH, FREDERICK CHARLES, L.R.C.P., M.R.C.S., Ingleden
House, Gunnersbury.
- F.F. †DOLAN, THOMAS M., M.D.Dur., F.R.C.S.Edin., Horton House,
Halifax, Yorkshire. C. 1886-8 & 1892-4. V.-P. 1889-91.
- 1898 †DON, WILLIAM WALTON, M.D.Glas., 466, Edgware Road, w.
- 1895 †DONALD, ARCHIBALD, M.A., M.D.Edin., M.R.C.P.Lond., *Obstetric
Physician Royal Infirmary, Manchester, Platt Abbey, Rusholme,
Manchester. C. 1897-9.*
- 1897 DONALD, HUGH COLLIGHAN, M.B.Glas. and C.M., 5, Gauze Street,
Paisley.

Elected

- 1898 DONOVAN, WILLIAM, M.D.Dur., L.R.C.P. & S.Ed., "Glandore," Erdington, Birmingham.
- L. 1889 DOUGLAS, RICHARD, M.D., Nashville, Tennessee, U.S.A.
- 1895 †DOVE, PERCY WILLIAM, L.R.C.P., M.R.C.S., 80, Crouch Hill, N.
- 1896 †DOWNES, JOSEPH LOCKHART, M.B., C.M.Glas., 271, Romford Road, E.
- 1898 DOYEN, E., M.D.Paris, 6, Rue Picini, Avenue du Bois de Boulogne, Paris.
- 1898 †DRAKE, A. THOMSON, M.B., R.U.I., 160, Lewisham High Road, S.E.
- F.F. †DRAKE-BROCKMAN, EDWARD FOSTER, F.R.C.S.Eng., L.R.C.P. Lond., 14, Welbeck Street, W.
- L. F.F. DRAPER, JAMES WILLIAM, L.R.C.P.Lond., M.R.C.S.Eng., L.S.A., Almondbury, Huddersfield.
- 1891 DRUMMOND, JAMES, M.D., Westoe, South Shields.
- L. 1885 DUDLEY, EMILIUS CLARKE, A.B., M.D., *Professor of Gynæcology Chicago Medical College*, 1617, Indiana Avenue, Chicago, U.S.A.
- 1889 DUKE, EDGAR, M.D.Durh., M.R.C.S.Eng., 11, Wilbury Road, Hove, West Brighton.
- F.F. *DUNDAS, MORDAUNT GEORGE, M.R.C.S., L.S.A.
- 1896 †DUTCH, HENRY, M.D.Bru., L.R.C.P.Lond., 8, Berkeley Street, Berkeley Square, W.
- 1891 †EASTES, THOMAS, M.D., F.R.C.S., 18, Manor Road, Folkestone. C. 1897-1900.
- 1890 ECCLES, F. R., M.D., *Professor of Gynæcology at the Western University*, Ellwood Place, London, Ontario, Canada.
- 1894 †EDGE, FREDERICK, M.D., B.S., B.Sc.Lond., M.R.C.P.Lond., F.R.C.S.Eng., *Surgeon to the Wolverhampton Hospital for Women, and to the Birmingham and Midland Hospital for Women*, 54, Darlington Street, Wolverhampton. C. 1897-9.
- F.F. †ELDER, GEORGE, M.D., *Surgeon Samaritan Hospital for Women, Nottingham*, 17, Regent Street, Nottingham. C. 1890-2. V.-P. 1897-9.
- 1898 †ELLIOTT, FRANK PERCY, M.B., C.M.Aberd., 113, Grove Road, Walthamstow, N.E.
- 1898 EMERSON, THOS. G., M.D., M.Ch., R.U.I., Wantage, Berks.
- 1894 EMMET, BACHE McE., M.D., 18, East Thirtieth Street, New York, U.S.A. Hon. Loc. Sec.
- L. 1885 ENGELMANN, GEORGE J., M.D., 336, Beacon Street, Boston, U.S.A.
- 1892 ENGLEMAN, FREDK., M.D., Kreuznach, Germany.
- L. 1892 ENGSTRÖM, OTTO, M.D., Helsingfors, Finland.
- 1891 FEHLING, PROFESSOR, M.D., 15, Magdeburger Strasse, Halle.
- L. 1886 FENGER, CHRISTIAN, M.D., 269, La Salle Avenue, Chicago, Illinois, U.S.A.

Elected

- 1894 †FENTON, FREDERICK ENOS, F.R.C.S.E., M.R.C.P.Edin., Langstone, Uxbridge Road, Ealing, w.
- 1896 †FENWICK, BEDFORD, M.D.Durh., M.R.C.P.Lond., *Physician to the Hospital for Women, Soho*, 20, Upper Wimpole Street, w.
- 1893 †FERGUSON, GEO. GUNNIS, M.B., C.M.Glas., Fern-Combe, New West End, Finchley Road, n.w.
- 1895 FERGUSON, JAMES HAIG, M.D., F.R.C.P.E., *Lecturer on Midwifery and Diseases of Women School of Medicine, Edinburgh, Examiner in Midwifery University of Edinburgh, and Royal College of Physicians*, 25, Rutland Street, Edinburgh.
- 1893 FINDLAY, WILLIAM, A.M., M.B., C.M.Aber., 475, Union Street, Aberdeen, N.B.
- 1899 FITZGERALD, EDWARD DESMOND, M.R.C.S., L.R.C.P., 10, West Terrace, Folkestone.
- 1895 FITZGERALD, WILLIAM ALEXANDER, M.D., B.A.Dublin, F.R.C.S., Villa Ciro, Monte Carlo.
- 1898 FLOYD, THOMAS SARGENT, M.A., M.D.Dublin, 16, Devonshire Road, Clughton, Birkenhead.
- 1898 FOGERTY, WILLIAM A., M.D., M.Ch., M.A.O., *Surgeon Limerick Hospital*, 67, George Street, Limerick.
- 1898 †FOOTT, RICHARD ERNEST, M.D., M.Ch., R.U.I., Brandon Lodge, Wood Green, n.
- 1891 FORDE, ERNEST S., L.R.C.P. & S.Ed., Dalry, Galloway.
- F.F. †FORDHAM, JOHN W., L.R.C.P.Edin., M.R.C.S.Eng., 78, Mile End Road, e.
- 1898 FRANZ, R. GRANT, M.D., Marburg and Berlin, Schwalbach, Germany.
- 1885 FRASER, GRÆME BISDEE, M.R.C.S., L.S.A., Belvidere, Beech Road, Weston-super-Mare.
- 1885 †FULLER, LEEDHAM, M.R.C.S.Eng., L.S.A.Lond., Oatlands, Streatham Hill, s.w.
- F.F. †GAGE-BROWN, CHARLES HERBERT, M.D., C.M.Ed., 85, Cadogan Place, s.w. C. 1898-9.
- 1898 GALE, ARTHUR, M.R.C.S.Eng., L.R.C.P.Lond., Manorgate House, Kingston Hill, Surrey.
- 1895 †GALLOWAY, ARTHUR W., L.R.C.P., M.R.C.S., 79, New North Road, n.
- F.F. †GARDINER, BRUCE HUBERT JOHN, M.D., L.R.C.P.Edin., M.R.C.S., 48, Barry Road, East Dulwich, s.e.
- 1894 †GARDNER, HAROLD BELLAMY, M.R.C.S.Eng., L.R.C.P.Lond., *Anæsthetist Charing Cross Hospital*, 52, Beaumont Street, w. C. 1899.
- F.F. GARDNER, WILLIAM, M.D., *Professor of Gynecology in McGill University*, 109, Union Avenue, Montreal, Canada. V.-P. 1887-9.
- 1895 †GEORGE, WM. HOTTEN, M.R.C.S.Eng., L.R.C.P.Ed., 9, Osnaburgh Street, n.w.
- 1895 GIFFARD, H. E., M.R.C.S., Denham House, Egham, Surrey.

Elected

- 1893 †GILES, ARTHUR E., M.D., B.Sc.Lond., M.B., Ch.B.Vict., F.R.C.S. Ed., M.R.C.P.Lond., *Surgeon to Out-Patients, Chelsea Hospital for Women, Gynæcologist to the Tottenham Hospital, 37, Queen Anne Street, Cavendish Square, w.*
Hon. Sec. 1898-1900. Editor 1899-1900.
- L. 1885 GILES, PETER BROOME, M.R.C.S., L.R.C.P., Holne Chase, Bletchley, Bucks.
- F.F. †GIMSON, THOMAS STEVENS, M.R.C.S., 32, Fitzroy Square, w.
- 1897 GODFREY, FRANK W. A., M.B.Edin. and C.M., *Hon. Surgeon Scarborough Hospital and Dispensary, 5, Montpellier Terrace, Scarborough.*
- 1891 †GODSON, CLEMENT, M.D., M.R.C.P., *Consulting Physician to the City of London Lying-in-Hospital, late Assistant Physician Accd. St. Bartholomew's Hospital, 9, Grosvenor Street, w.*
C. 1892-4 & 1897-9. Pres. 1895-6. V.-P. 1900.
- F.F. GOLDSMITH, GEORGE POCKOCK, M.D., 3, Harpur Place, Bedford.
C. 1891-3.
- L. 1886 GORDON, SAMUEL C., M.D., Portland, Maine, U.S.A.
- 1891 GOWANS, WILLIAM, M.D.Dur., F.R.C.S.Edin., Westoe House, Westoe, South Shields.
- 1896 †GRANT, WILLIAM FRANCIS, M.D.Edin., 159, Edgware Road, w.
- 1896 GRAY, WILLIAM, M.D. and C.M.Edin., Church Square, West Hartlepool.
- 1891 GREEN, W. O., M.D., 709, 2nd Street, near Chestnut, Louisville, Kentucky, U.S.A.
- F.F. †GRIFFITH, G. DE GORREQUER, L.R.C.P., M.R.C.S., *late Senior Physician to Hospital for Women and Children, Pimlico, 34, St. George's Square, s.w., and New Indian Club, Whitehall Gardens, s.w.*
- F.F. †GRIGG, W. CHAPMAN, M.D., M.R.C.P., *Physician to Queen Charlotte's Hospital, late Assistant Obstetric Physician to the Westminster Hospital, 27, Curzon Street, Mayfair, w.*
C. 1884-6 & 1892-4. Hon. Sec. 1886-7. V.-P. 1888-90, Pres. 1891.
- L. 1885 †GRIMSDALE, THOMAS BABINGTON, B.A., M.B.Cantab., M.R.C.S., *Gynæcological Surgeon Liverpool Royal Infirmary, 29, Rodney Street, Liverpool.*
Hon. Loc. Sec. C. 1894-6.
- 1898 †GUNTON, GEORGE ANDREW, L.R.C.P.I., L.S.A., 3, Sloane Court, s.w.
- 1885 HACKNEY, JOHN, M.D., M.R.C.S., L.S.A., Oaklands, Hythe, Kent.
- 1895 HALL, ERNEST AMOS, M.D., C.M.Ont., L.R.C.P.Ed., 602, Spadina Avenue, Toronto, Canada.
- L. 1885 HALL, RUFUS B., M.D., 37, Crown Street, Walnut Hills, Cincinnati, U.S.A.
- L. 1886 HANKS, HORACE TRACY, M.D., 766, Madison Avenue, New York, U.S.A.
- 1898 HANSON, ARTHUR STEPHEN, M.R.C.S., L.R.C.P., Titchfield, Fareham, Hants.

Elected

- 1897 †HARLEY, HENRY, M.D., R.U.I., 27, Victoria Road, Battersea Park, S.W.
- F.F. HARRIES, THOMAS DAVIES, M.R.C.P.Lond., F.R.C.S.Eng., *Surgeon Aberystwith Infirmary and Cardiganshire General Hospital*, Grosvenor House, Aberystwith.
- 1897 †HARTLEY, REGINALD, F.R.C.S.Ed., 68, Porchester Terrace, Hyde Park, W.
- 1898 †HARTT, CHARLES HENRY, L.R.C.P.I., L.R.C.S.I., L.M., 14, Croom's Hill, Greenwich, S.E.
- F.F. HASLAM, WM. DOIGE, M.D.Brx., M.R.C.S.Eng., L.S.A., Walpole House, Wallington, Surrey.
- F.F. †HAULTAIN, FRANCIS WM. NICOL, M.D., F.R.C.P.Ed., *Physician for Diseases of Women, Royal Dispensary, Lecturer on Midwifery and Diseases of Women, Edinburgh School of Medicine*, 17, Rutland Street, Edinburgh. Hon. Loc. Sec. C. 1896-8.
- 1889 HAWKES, A. E., M.D.Brx., L.R.C.P. and S.Ed., 22, Abercromby Square, Liverpool.
- L. 1886 HEADLEY, W. BALLS, M.A., M.D., F.R.C.P., 4, Collins Street, Melbourne, Australia. C. 1896-8.
- 1887 *HEALD, BENJAMIN GREY, L.R.C.P.Ed., L.F.P.S.G.
- F.F. †HEBERT, PAUL ZOTIQUE, M.D., C.M.McGill, L.R.C.P.Lond., 16A, Old Cavendish Street, Cavendish Square, W. C. 1896-8.
- L. 1885 HEIBERG, WILHELM, M.D., *Surgeon to the County Hospital of Copenhagen*, Frederiksberg, Copenhagen.
- 1898 HELME, THOMAS ARTHUR, M.D.Edin., M.R.C.P.Lond., M.R.C.S.Eng., 337, Oxford Road, Manchester.
- 1896 HENRY, THOMAS JAMES, F.R.C.S.Ed., Grafton, Clarence River, New South Wales.
- L. 1887 HETHERINGTON, GEO. ALBERT, M.D., St. John, N.B., Canada.
- 1891 HILL, J. STONELEY, M.B. and C.M.Edin., 33, Great Charlotte Street, Blackfriars Road, S.E.
- F.F. *HILLS, AUGUSTUS PHILLIPS, M.R.C.S.Eng.
- F.F. †HINE, ALFRED LEONARD, L.R.C.P.Lond., M.R.C.S., L.S.A., Eppingdale, Leytonstone Road, E. C. 1891-2.
- 1898 †HINGSTON, WILLIAM F., M.D., B.A., T.C.D., 215, Evelyn Street, Deptford, S.E.
- L. 1887 HOAG, JUNIUS C., M.D., 4669, Lake Avenue, Chicago.
- F.F. †HODGSON, ROBERT HUGH, M.D.Dur., M.R.C.S.Eng., 204, Rye Lane, Peckham, S.E. C. 1894-7. V.-P. 1898-1900.
- 1895 †HOLLAND, C. E., M.B., C.M.Ed., "Airdrie," The Avenue, Kew Gardens, Surrey.
- F.F. †HOLLAND, EDMUND, M.D., M.R.C.P., F.R.C.S., *Physician to the Hospital for Women, Soho*, 1, Titchfield Terrace, North Gate, Regent's Park, N.W. C. 1893-5.
- L. 1885 HOOVER, JOHN WILLIAM DUNBAR, L.R.C.P. and S.Edin., *Surgeon to the Women's Hospital, Melbourne*, 70, Collins Street, East Melbourne.

Elected

- 1899 HORNE, ANDREW JOHN, F.R.C.P.I., 94, Merrion Square, Dublin.
- 1898 HOWARD, ARTHUR WALTERS, M.R.C.S., L.R.C.P., Wealdstone, Harrow.
- F.F. †HOWELL, HORACE SYDNEY, M.D., F.R.C.S., 72, Boundary Road, South Hampstead, N.W. C. 1898-9.
- 1898 †HUNTER, SAMUEL ROGER, M.D., M.Ch., R.U.I., Lynher House, High Street, Clapham, S.W.
- 1887 HUTCHISON, GEORGE WRIGHT, M.D.Aber., M.R.C.P.Edin., Chipping Norton, Oxon.
- F.F. †ISDELL, FITZGERALD, M.A., M.D.Dub., 189, Shaftesbury Avenue, W.C.
- F.F. JACKSON, THOMAS VINCENT, F.R.C.S.Edin., J.P., *Senior Surgeon to the Wolverhampton and Staffordshire General Hospital*, Whetstone House, Waterloo Road South, Wolverhampton. C. 1884-6.
- F.F. †JAMES, W. CULVER, M.D., 15, Marloes Road, Kensington, W. C. 1884-6.
- 1894 †JARDINE, JAMES, M.B.Edin., C.M., 3, Lichfield Gardens, Richmond, Surrey.
- F.F. JAY, HENRY MASON, M.D.Aberd., F.R.C.S.Ed., Chippenham, Wilts.
- 1898 JELLET, HENRY, M.D.Dub., M.R.C.P.I., 61, Lower Mount Street, Dublin.
- 1899 JENKINS, THOMAS WILSON, M.A., M.D.Glas., 23, Royal Crescent, Glasgow, W.
- 1887 †JESSETT, FREDERICK BOWREMAN, F.R.C.S.Eng., *Surgeon to the Cancer Hospital, Brompton*, 23, Brook Street, W. C. 1891-2 & 1894-7. V.-P. 1898-1900. Pres. 1893.
- L. 1885 JEWETT, CHARLES, M.D., 330, Clinton Avenue, Brooklyn, U.S.A.
- 1897 *JOHNSTON, G. J. WALDRON, M.D., R.U.I.
- 1886 JOHNSTON, JOHN, M.R.C.S.Eng., 2, Rocky Hill Terrace, Maidstone.
- L. 1886 JOHNSTONE, ARTHUR W., M.D., Madisonville Road, Cincinnati, Ohio.
- 1891 JOHNSTONE, GEORGE W., L.R.C.P., Government Medical Officer, The Residency, Beaufort, British North Borneo.
- 1887 JONES, C. N. DIXON, M.D., 249, East 86th Street, New York, U.S.A.
- 1894 JONES, D. MARINUS, M.D., M.Ch.Edin., Beechwood, Victoria Road, Aldershot.
- 1899 JONES, EVAN JAMES TREVOR, M.R.C.S., L.R.C.P., Ty-mawr, Aberdare, S. Wales.
- F.F. †JONES, H. MACNAUGHTON, M.D., M.Ch., Q.U.I., M.A.O., F.R.C.S.I. and Edin., *late Examiner in Midwifery Royal University Ireland, and Professor of Midwifery Queen's College, Cork*, 131, Harley Street, W. C. 1890-2 and 1900. V.-P. 1895-7. Pres. 1898-9.
- 1895 †JONES, JOHN, L.R.C.P., M.R.C.S., Claremont, Newlands Park, Sydenham, S.E.
- F.F. *†JONES, LEWIS, M.D., M.R.C.S.

Elected

- 1893 †JORDAN, JOHN FURNEAUX, M.B., R.U.I., F.R.C.S.Eng., *Surgeon Women's Hospital, Birmingham*, 114, Edmund Street, Birmingham.
C. 1899-1900.
- 1885 JOUBERT, CHARLES HENRY, M.B.Lond., F.R.C.S.Eng., *Surgeon Lieut.-Colonel I.M.S., Professor of Midwifery and Obstetric Physician Medical College, Calcutta*, 6, Harrington Street, Calcutta.
- 1895 †KEITH, GEORGE E., M.B., C.M.Ed., 42, Charles Street, Berkeley Square, W.
Hon. Sec. 1897-9. C. 1900.
- 1894 †KEITH, SKENE, M.B., C.M.Edin., F.R.C.S.E., 42, Charles Street, Berkeley Square, W.
C. 1897-9 V.-P. 1900.
- L. 1889 KELLOGG, J. H., M.D., Battle Creek, Michigan, U.S.A.
- 1898 KELLY, HOWARD A., M.D., Univ. of Pennsylvania, *Professor of Gynaecology and Obstetrics in Johns Hopkins University*, 1406, Eutaw Place, Baltimore, Pa., U.S.A.
- 1891 †KEMPSTER, WM. H., M.B.Durh., 1, Albert Bridge Road, Battersea Park, S.W.
- F.F. †KENNEDY, JOHN BLYDESTYN, M.R.C.S.Eng., L.S.A., Stratford Hall, Stratford, E.
- 1898 KERR, JOHN GEORGE DOUGLAS, M.B., C.M.Glas., 6, Royal Circus, Bath.
- L. 1886 KING, ALBERT F. A., M.D., 1315, Mass. Avenue, N.W., Washington, D.C., U.S.A.
- 1898 KINKEAD, RICHARD JOHN, M.D., L.R.C.S.I., *Prof. of Obstetrics, Queen's College, Galway*, Forster House, Galway.
- 1893 KIRKLEY, C. A., M.D., 1105, Jefferson Street, Toledo, Ohio, U.S.A.
- F.F. KNOTT, CHARLES, M.R.C.P.Edin., Liz Ville, Elm Grove, Southsea.
- 1898 LANDAU, L., M.D., *Professor of Gynaecology of the University of Berlin*, Berlin.
V.-P., 1900.
- L. 1886 †LAWRIE, JAS. MCPHERSON, M.D., *Physician to the Weymouth Sanatorium*, Greenhill, Weymouth. C. 1894-6. V.-P. 1899-1900.
- 1899 LEA, ARNOLD WILLIAM WARRINGTON, M.D., B.S.Lond., F.R.C.S.Eng., *Assistant to the Professor of Obstetrics, Owens College; Assistant Surgeon to the Clinical Hospital for Women and Children, Manchester*, 274, Oxford Road, Manchester.
- L. F.F. LEBLOND, ALBERT, M.D., *Médecin de Saint-Lazare*, 53, Rue d'Hauteville, Paris.
- 1889 LEIGH, W. W., L.R.C.P.Edin., M.R.C.S.Eng., L.S.A., Glyn Bargoed, Treharris, R.S.O., South Wales.
- L. F.F. LE PAGE, JOHN FISHER, M.D., L.R.C.P.Edin., The Poplars, Cheadle, Cheshire.
- F.F. *LESLIE, WILLIAM MURRAY, M.D.Edin., C.M., F.R.C.S.E.
- 1899 LEWIS, PERCY GEORGE, M.D.Bru.x., M.R.C.S., 22, Manor Road, Folkestone.

Elected

- 1891 LLOYD, H. J., L.R.C.P.Edin., L.F.P.S.Glas., Tyncoed, Barmouth, North Wales.
- F.F. †LLOYD, SAMUEL, M.D., 60, Bloomsbury Street, Bloomsbury, W.C.
- 1893 LLOYDE, JOHN HY., L.R.C.P. and S.Edin., 6, Harpur Place, Bedford.
- 1895 †LONG, RICHARD PATRICK, L.F.P.S.Glas., L.S.A., 99, Queen's Crescent, Haverstock Hill, N.W.
- F.F. †LOW, RICHARD MARSDEN PILKINGTON, M.B., C.M.Edin., L.R.C.P. and S.Edin., L.M., 70, Philbeach Gardens, S.W. C. 1896-8.
- 1895 †LUCEY, WM. CUBITT, M.D.Aberd., M.R.C.S., Penrose House, Rosslyn Hill, Hampstead, N.W.
- 1894 LUTAUD, AUGUSTE, M.D.Paris, *Redacteur en Chef du Journal de Médecine de Paris ; Médecin Adj. de l'Hôpital St. Lazare*, 47, Boulevard Haussmann, Paris.
- F.F. †LYCETT, JOHN ALLAN, M.D. St. And., M.R.C.P.Edin., *Surgeon Wolverhampton and District Hospital for Women*, Gatcombe, Wolverhampton. Hon. Loc. Sec. C. 1889-91.
- 1899 LYLE, ROBERT PATTON RANKEN, B.A., M.D., B.Ch.Dub., 20, Saville Row, Newcastle-on-Tyne.
- F.F. MACAN, ARTHUR VERNON, B.A., M.B.Dub., M.Ch., M.A.O., F.R.C.P.I., *King's Professor of Midwifery Trinity College ; Obstetric Physician Sir P. Dun's Hospital ; Ex-Master of the Rotunda Hospital, Dublin*, 53, Merrion Square, Dublin. V.-P. 1887-8. Pres. 1889. C. 1890-2.
- L. 1885 †MACAN, JAMESON JOHN, M.A., M.D.Cantab., M.R.C.S., Crossgates, Cheam, Surrey. C. 1895-7. V.-P. 1898-1900. Editor, 1899-1900.
- 1899 MCARDLE, JOHN STEPHEN, F.R.C.S.I., *Surgeon to St. Vincent's Hospital*, 7, Upper Merrion Street, Dublin.
- 1898 MACARTNEY, Richard, L.R.C.P. & S.Edin., Lisanore, Cinderford, Gloucestershire.
- 1895 MACDONALD, JAMES, M.D.Ed., Bloxwich, Walsall, Staffs.
- 1898 †MACDONNELL, ALEXANDER, L.R.C.S.Ed., and L.S.A., 39, Stamford Hill, N.
- 1895 MACGREGOR, ANGUS VALLANCE, M.D.Edin. and C.M., Durham House, Victoria Road, West Hartlepool.
- 1897 MACGREGOR, PETER, F.R.C.S.Ed., Rashcliffe, Huddersfield.
- L. 1889 MACKAY, W. A., M.D.Edin., F.R.C.S.Edin, Huelva, Spain.
- L. 1888 †MACKINTOSH, G. D., L.R.C.P.I., L.M.Ed., Fairford House, Lower Kennington Lane, S.E.
- 1898 †McMANUS, LEONARD STRONG, M.D., Westwood House, St. John's Hill, S.W.
- 1892 McMURTRY, L. S., M.D., 231, West Chestnut Street, Louisville, Kentucky, U.S.A.
- 1897 †MACNAUGHTON-JONES, H. M., M.B., B.Ch., R.U.I., L.R.C.P., M.R.C.S., 12, Sandwell Mansions, West End Lane, N.W.
Editor, 1900.

Elected

- 1894 *MADDIN, JOHN WALSEY, Junr., M.D.
- 1888 MANTON, WALTER PORTER, M.D., 32, Adams Avenue, w., Detroit, Mich., U.S.A.
- 1887 MARLEY, HENRY FREDERICK, M.R.C.S.E., L.R.C.P., L.S.A., L.M., The Nook, Padstow, Cornwall.
- 1895 MARTIN, CHARLES, M.B., C.M.Ed., Dagenham House, Newton Abbot, South Devon.
- 1891 †MARTIN, CHRISTOPHER, M.B.Edin., C.M., F.R.C.S.Eng., *Surgeon Birmingham and Midland Hospital for Women*, Cleveland House, George Road, Edgbaston, Birmingham.
Hon. Loc. Sec. C. 1897-9.
- 1896 MATTICE, RICHARD ISA, M.D.McGill, L.R.C.P.Lond., Omaha, Nebraska, U.S.A.
- 1895 †MAY, EDWIN HOOPER, M.D. St. And., F.R.C.S., Tottenham High Cross, N.
- 1896 MAYBURY, LYSANDER, M.D., R.U.I., M.Ch., M.R.C.S.Eng., 9, Hampshire Terrace, Southsea.
- 1891 MEARNs, WILLIAM, M.A., M.D., *Physician Children's Hospital, Gateshead-on-Tyne*, 22, Bewick Road, Gateshead-on-Tyne.
- 1891 MEEK, H., M.D., 331, Queen's Avenue, London, Ontario, Canada.
- 1887 MENDES DE LEON, M.A., M.D., Sarphati Straat, 1H, Amsterdam.
C. 1892.
- L. 1886 MERRIMAN, HENRY P., M.D., 2239, Michigan Avenue, Chicago, U.S.A.
- 1896 METCALFE, JAMES, M.D.Brux., L.R.C.P. and S.Edin., *Surgeon to St. Catherine's Home for Cancer, Bradford*, 8, Heaton Grove, Bradford, Yorks.
- 1891 MICHIE, H., M.B.Aber., C.M., *Surgeon to the Samaritan Hospital*, 27, Regent Street, Nottingham.
C. 1894-6.
- 1895 †MILLER, FREDK. R., M.D.Brux., L.R.C.P.Lond., 9, Harley Street, w.
- L. 1886 *MILLER, DE LASKIE, M.D., *Professor of Obstetrics Rush Medical College*.
- 1896 MINCHIN, P. DUNDAS, L.R.C.P. and S. Edin., Oldcroft, Godalming, Surrey.
- 1892 MOLSON, JOHN CAVENDISH, L.R.C.P., 10, Walsingham Terrace, West Brighton.
- 1899 †MORGAN, GEORGE JOHN, L.R.C.P.I., M.R.C.S., 16, Quex Road, West Hampstead, N.W.
- 1896 MORGAN, THOMAS HOWARD, M.D., F.R.C.S.Ed., Gympic, Queensland, Australia.
- 1887 MORISON, ALBERT EDWARD, M.B., C.M.Ed., F.R.C.S.Edin., Wellington Road, West Hartlepool.
- 1891 MORISON, J. RUTHERFORD, M.B., F.R.C.S., *Surgeon Newcastle-on-Tyne Infirmary*, 14, Saville Row, Newcastle-on-Tyne.
C. 1894-6.
- 1894 MORLAND, CHARLES HENRY DUNCAN, M.B., B.S.Durh., M.R.C.S., Swatow, China.

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- 1898 †MORRIS, RICHARD JOHN, L.S.A., M.D.Heidelberg, 5, Cable Street, Lancaster.
- F.F. †MORTON, THOMAS, M.D.Lond., M.R.C.S., L.S.A., *ex-President of the Harveian Society of London*, 15, Greville Road, Kilburn, N.W.
C. 1889-90 and 1899-1900.
- 1898 †MOSSE, HERBERT RYDING, M.D., M.R.C.S.Eng., Hobart House, Clapham Common, S.W.
- F.F. †MOULLIN, J. A. MANSELL, M.A., M.B.Oxon., M.R.C.P., *Physician to the Hospital for Women, Soho, Physician for Diseases of Women to the West London Hospital*, 80, Porchester Terrace, Hyde Park, W.
C. 1884-6. Hon. Sec. 1887-8. V.-P. 1889-91. Libr. 1892.
Treas. 1893-1900.
- L. 1885 MUNDE, PAUL F., M.D., *Professor of Gynaecology at the New York Polyclinic, and at Dartmouth College*, 20, West Forty-Fifth Street, New York, U.S.A.
V.-P. 1886-7.
- 1896 MURRAY, CHAS. F. K., M.D., R.U.I., F.R.C.S., Kenilworth, Cape Town, S. Africa.
- 1885 MURRAY, ROBERT MILNE, M.A. St. And., M.B.Edin., F.R.C.P.Edin., F.R.S.E., *Assistant Physician Maternity Hospital; Lecturer on Midwifery and Gynaecology Edinburgh School; Physician for Diseases of Women to the Western Dispensary*, 11, Chester Street, Edinburgh.
C. 1886-8. V.-P. 1899-1900.
- 1891 MURRAY, WILLIAM, M.D., F.R.C.P., *Consulting Physician Newcastle-on-Tyne Hospital for Sick Children*, 9, Ellison Place, Newcastle-on-Tyne.
- F.F. MUTCH, F. ROBERTSON, M.D., C.M.Aberd., "Strathgairn," Goldsmith Street, Nottingham.
- 1891 NAPIER, A. D. LEITH, M.D., M.R.C.P.Lond., F.R.S.Edin., *late Physician Royal Maternity Charity of London; Examiner in Midwifery and Gynaecology, Apothecaries' Hall*, General Hospital, Adelaide, South Australia.
C. 1892. Hon. Sec. 1893-4. Editor 1894-6. V.-P. 1895-7.
- 1889 †NAUMANN, J. C. FRANCIS, M.D.BruX., L.R.C.P.Lond., M.R.C.S., Eng., *Physician Italian Hospital*, 125, Gower Street, W.C.
- 1894 †NEATBY, EDWIN A., M.D.BruX., L.R.C.P.Lond., 19, Upper Wimpole Street, W.
- 1891 NEDWILL, COURTNEY, M.D., R.U.I., M.R.C.S., Christchurch, Canterbury, New Zealand.
- L. 1886 NELSON, DANIEL THURBER, M.D., 2400, Indiana Avenue, Chicago, U.S.A.
- L. F.F. †NETHERCLIFT, WILLIAM HENRY, F.R.C.S.Ed., Piccadilly Club, Piccadilly, W.
- L. F.F. NEUGEBAUER, FRANZ, M.D., *Directeur de l'Hôpital Evangelique*, Leszno, 33, Warsaw, Russia (Poland).
V.-P. 1887-9.
- 1898 †NEVILLE, THOS., M.D., R.U.I., 123, Sloane Street, S.W.
- 1896 NEWNHAM, WILLIAM HARRY CHRISTOPHER, M.A., M.B.Camb., M.R.C.S., *Physician Accoucheur Bristol General Hospital*, Chandos Villa, Queen's Road, Clifton.
C. 1898-1900.

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- 1898 NOBLE, CHARLES P., M.D. Maryland, 1509, Locust Street, Philadelphia, Pa., U.S.A.
- 1896 †O'BRYEN, JAMES WHEELER, M.D. Vermont, L.R.C.P. and S.Ed., Springfield Lodge, Sydenham, s.e.
- L. 1889 †O'CALLAGHAN, ROBERT, L.R.C.P., F.R.C.S.I., *late Surgeon Carlrow Infirmary and Surgeon Chelsea Hospital for Women*, 137, Harley Street, w. C. 1891-3.
- 1898 O'CONNOR, WILLIAM MOYLE, M.A., M.D. Dub., Lyndhurst, Cargate, Aldershot.
- 1885 O'DONNELL, THOMAS J., L.K.Q.C.P.I., L.M., L.R.C.S.I., *Surgeon Major Army*, Oorgaum, Mysore State, India.
- 1898 O'HAGAN, PATRICK FRANCIS, L.R.C.P. & S.E., Tower House, London Road, Croydon.
- 1895 *OLIVER, FRANKLIN HEWITT, L.R.C.P. Lond., L.S.A.
- 1894 †OLIVER, JAMES, M.D., M.R.C.P. Lond., F.R.S. Edin., *Physician to the Hospital for Women, Soho Square, W.*, 18, Gordon Square, w.c. C. 1896-98. V.-P. 1900.
- 1891 OLIVER, THOS., M.A., M.D., F.R.C.P., *Professor of Physiology University of Durham, Physician Newcastle-on-Tyne Infirmary*, 7, Ellison Place, Newcastle-on-Tyne. C. 1892-4.
- 1898 OPPENHEIMER, HEINRICH, M.D. Heidelberg, M.R.C.P. Lond., 63, Finsbury Pavement, E.C.
- L. 1889 OSTROM, H. J., M.D., 42, West 48th Street, New York, U.S.A.
- F.F. †PADMAN, JOHN, M.R.C.S. Eng., 22, Bloomsbury Square, w.c.
- L. 1888 PARKINSON, J. TAYLOR, M.D., Brook View, Crystal Brook, South Australia.
- 1898 †PARSONS, FREDERIC WILLIAM, L.R.C.P. Lond., M.R.C.S., L.S.A., 27, Lingfield Road, Wimbledon.
- 1898 †PARSONS, JOHN INGLIS, M.D., M.R.C.P., *Physician to the Chelsea Hospital for Women*, 3, Queen Street, Mayfair, w. C. 1900.
- 1898 PATTISON, EDWARD SETON, M.R.C.S., L.R.C.P. Ed., Granville House, Fulham Park, s.w.
- 1898 PEARSON, CHARLES YELVERTON, M.D., M.Ch., 1, Sidney Place, Cork. Hon. Loc. Sec.
- 1899 PECK, FRANCIS SAMUEL, M.R.C.S., L.R.C.P., *Major Indian Medical Service*, 6, Harrington Street, Calcutta.
- 1891 PHILIPSON, Professor G. H., M.A., M.D. Cantab., D.C.L., F.R.C.P., *Professor of Medicine University of Durham, Senior Physician Newcastle-on-Tyne Infirmary*, 7, Eldon Square, Newcastle-on-Tyne.
- F.F. †PICKETT, JACOB, M.D. St. And., L.R.C.P. Edin., L.M., M.R.C.S. Eng., L.S.A., 26, Colville Square, w.
- L.F.F. PINARD, ADOLPHE, M.D., *Professeur à la Faculté, Accoucheur de Lavoisière*, 11, Rue Rocquepine, Paris. V.-P. 1900.

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- 1895 PLOWMAN, T. A. BARRETT, M.R.C.S., L.R.C.P., Greenway, North Curry, Taunton.
- L. 1885 POLK, WILLIAM M., M.D., *Ex-President New York Obstetrical Society, &c., &c.*, 7, East Thirty-Sixth Street, New York, U.S.A.
- 1886 †POPE, HARRY CAMPBELL, M.D.Lond., F.R.C.S., 280, Goldhawk Road, Shepherd's Bush, W. C. 1890-2.
- 1891 †POULTER, ARTHUR REGINALD, M.R.C.S., L.R.C.P., 4, Gordon Mansions, Gower Street, W.C.
- 1888 *POWELL, HENRY FITZGERALD, M.D. St. And., F.R.C.S.Edin.
- 1898 PRINGLE, GEORGE LORAIN KERR, M.D., C.M.Ed., King's Square, Bridgwater, Somerset.
- F.F. †PURCELL, FERDINAND ALBERT, M.D., M.Ch., R.U.I., M.R.C.S., L.M.Eng., *Surgeon to the Cancer Hospital, Brompton*, 7, Manchester Square, W. C. 1888-9, 1893-5.
- L. F.F. PUREFOY, RICHARD DANCER, M.D., T.C.D., F.R.C.S.I., *Obstetric Surgeon Adelaide Hospital, Master of the Rotunda Hospital*, 20, Merrion Square, Dublin. C. 1884-6. V.-P. 1899-1900.
- 1895 †PUTSEY, WILLIAM H., M.D.Dur., M.R.C.S., *Fleet Surgeon (retired) R.N., Medical Registrar South London Hospital for Women*, Junior United Service Club, S.W.
- 1887 RAE, GEORGE A., L.R.C.P. and S.Ed., 1, Outram Terrace, Stoke, Devonport.
- 1894 †RAMSAY, FRANK WINSON, M.D., B.S.Durh., F.R.C.S.Ed., Jesmond Dene, Bournemouth. C. 1900.
- L. F.F. RASCH, ADOLPHUS A. F., M.D., M.R.C.P., *late Physician for Diseases of Women and Children to the German Hospital, London*, Blumenstrasse, 5, Halle à Saale, Germany. C. 1891-3. V.-P. 1895-6.
- F.F. RAWLINGS, JOHN ADAMS, M.R.C.P.Edin., M.R.C.S.Eng., *Physician to the Swansea Hospital*, Preswylfa, Swansea. C. 1888-9.
- 1898 †REDFERN, JOHN J., M.D., M.A.O., *Surgeon to the Croydon General Hospital*, Croindene, Wellesley Road, Croydon.
- L. 1887 REED, CHARLES A. L., M.D., *Professor of Gynecology and Abdominal Surgery at the Cincinnati College of Medicine and Surgery, and Surgeon to the Cincinnati Free Surgical Hospital for Women*, Cincinnati, Ohio, U.S.A.
- F.F. REID, W. LOUDON, M.D.Glas., F.F.P.S.Glas., *Professor of Midwifery and Diseases of Women and Children, Anderson's College, Glasgow, Physician to Dispensary for Diseases of Women, Western Infirmary*, 7, Royal Crescent, Glasgow. C. 1888-9. V.-P. 1896-8.
- 1898 RICE, GEORGE, M.D.Dur., 46, Friar Gate, Derby.
- F.F. *RICHARDSON, JOHN HUMPHREY HOWARD, M.R.C.S., L.S.A.
- 1887 RICHMOND, THOMAS, L.R.C.P.E., L.F.P.S.G., 22, Holyrood Crescent, W., Glasgow.
- L. 1888 RICKETTS, E. S., M.D., 93, East Fourth Street, Cincinnati, Ohio, U.S.A.

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- F.F. †RILEY, JAMES, L.R.C.P.Edin., M.R.C.S.Eng., L.M., L.S.A., Cedar House, Cheniston Gardens, Kensington, w.
- L. F.F. ROBERTS, D. LLOYD, M.D., F.R.C.P., F.R.S.Edin., *Physician to St. Mary's Hospital, Manchester, and Lecturer on Clinical Midwifery and the Diseases of Women in Owens College, 11, St. John Street, Manchester.* C. 1884. V.-P. 1886-8.
- F.F. †ROBERTS, THOMAS, L.S.A.Lond., 2, Selborne Gardens, York Road, Ilford, Essex.
- L. F.F.†ROBERTSON, A. MILNE, M.D.Edin., Gonville House, Alton Road, Roehampton, s.w.
- 1898 †ROBINSON, MALACHI J., M.D., M.Ch., R.U.I., 257, Essex Road, Canonbury, N.
- 1888 †ROBSON, ARTHUR W. MAYO, F.R.C.S.Eng., L.R.C.P.Lond., *Professor of Surgery Yorkshire College, Surgeon Leeds General Infirmary, 7, Park Square, Leeds.* Hon. Loc. Sec. C. 1893-5 & 1898-1900. V.-P. 1896. Pres. 1897.
- 1897 ROBSON, HERBERT J., M.R.C.S. and L.R.C.P.Lond., 3, Hillary Place, Woodhouse Lane, Leeds.
- L. 1885 ROSEBRUGH, JOHN WELLINGTON, M.D., Hamilton, Ont., Canada.
- L. 1888 ROSS, JAMES F. W., M.D., C.M., L.R.C.P.Lond., *Professor of Gynaecology and Abdominal Surgery Ontario Medical College for Women, Gynaecologist to Toronto General Hospital, St. Michael Hospital and St. John's Hospital for Women, 481, Sherbourne Street, Toronto, Canada.* Hon. Loc. Sec.
- 1898 †ROTHEROE, WILLIAM BURSLEM, L.R.C.P. and S.Ed., 47, Gloucester Place, w.
- F.F. †ROUTH, CHARLES HENRY FELIX, M.D., M.R.C.P., *Consulting Physician to the Samaritan Free Hospital, 52, Montague Square, w.* V.-P. 1884-6 & 1896-8. C. 1888-9, 1891-4 & 1899-1900. Pres. 1890.
- L. F.F. RUSSELL, LOGAN D. II., M.D., M.R.C.S., Glenfern, Halfway Tree, Jamaica.
- 1897 †RYALL, CHARLES, F.R.C.S., *Surgeon to the Cancer Hospital; Surgeon to the Gordon Hospital; Surgeon to Out-patients, London Lock Hospital, 51, Queen Anne Street, w.* Hon. Sec. 1900.
- 1895 SAMBON, LUIGI, M.D., 210, Earls Court Road, s.w.
- 1895 *SAUNDERS, FREDERICK HERBERT, M.D., C.M.Aberd.
- F.F. †SAVAGE, THOMAS, M.D., M.R.C.P., F.R.C.S.Eng., *Professor of Gynaecology Mason's College, Surgeon Birmingham and Midland Hospital, 133, Edmund Street, Birmingham.* C. 1884-6, 1895-7. V.-P. 1889-91. Pres. 1894.
- 1892 †SCHACHT, F. F., M.D., B.A.Cantab., *late Physician to Out-Patients, Chelsea Hospital for Women, 153, Cromwell Road, s.w.* Hon. Sec. 1893-6. Editor 1896-9. V.-P. 1897-9. C. 1900.
- 1898 SCOTT, EDWARD IRWIN, M.D. St. And., 69, Church Road, West Brighton.

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- 1887 †SHAW, JOHN, M.D.Lond., M.R.C.P.Lond., *Obstetric Physician and Gynæcologist North-West London Hospital*, 32, New Cavendish Street, Cavendish Square, w. C. 1888-90. Hon. Sec. 1895-7.
- 1895 †SIMEON, E. ARCHIBALD, L.R.C.P. and S.Ed., 350, Hoe Street, Walthamstow, N.E.
- 1889 †SIMPSON, ALEXANDER RUSSELL, M.D., F.R.C.P.Edin., F.F.P.S.Glas., F.R.S.E., *Professor of Midwifery and Diseases of Women Edinburgh University, Physician for Diseases of Women Royal Infirmary and Maternity Hospital*, 52, Queen Street, Edinburgh. V.-P. 1890-1. Pres. 1892. C. 1893-5.
- 1898 †SIMPSON, JOHN POLLOCK, M.D., 1, Blandford Street, Manchester Square, w.
- 1899 SINCLAIR, WILLIAM JAPP, M.D.Aberd., M.R.C.P., *Professor of Obstetrics and Gynæcology Victoria University, and Physician to the Southern Hospital, Manchester*, 250, Oxford Road, Manchester. C. 1900.
- L. 1885 SKENE, ALEXANDER J. C., M.D., 167, Clinton Street, Brooklyn, N.Y., U.S.A.
- F.F. †SLIMON, WILLIAM, M.D.Glas., F.F.P.S.Glas., 26, New Cavendish Street, w. C. 1899-1900.
- 1886 SLOAN, SAMUEL, M.D., F.F.P.S.Glas., *Consulting Physician to the Glasgow Maternity Hospital*, 5, Somerset Place, Sauchiehall Street West, Glasgow. C. 1889-91.
- L. 1887 SMART, DAVID, M.B., B.Sc.Edin., 74, Hartington Road, Liverpool.
- 1889 SMITH, ALFRED J., M.B., R.U.I., M.Ch., M.A.O., *Professor of Midwifery and Diseases of Women, Catholic University, Dublin, Gynæcologist St. Vincent's Hospital*, 30, Merrion Square, Dublin. C. 1896-8.
- 1898 SMITH, ARTHUR LAPHORN, B.A., M.D., M.R.C.S., *Professor of Clinical Gynæcology Bishops University, Montreal, Surgeon-in-Chief Samaritan Free Hospital for Women, Gynæcologist to the Montreal Dispensary, Surgeon to the Western General Hospital*, 248, Bishop Street, w.
- L. F.F. †SMITH, E. T. AYDON, L.S.A., Devon Lodge, 2, Alexandra Road, St. John's Wood, N.W. C. 1898-9.
- L. F.F. †SMITH, HEYWOOD, M.A., M.D., M.R.C.P., 18, Harley Street, w. Hon. Sec. 1884-5. C. 1889-91 & 1898-1900. V.-P. 1892-4.
- 1891 SMITH, JAMES WILKIE, M.D., Balgonie House, Ryton-on-Tyne, Durham.
- F.F. †SMITH, RICHARD T., M.D., M.R.C.P., *Physician to the Hospital for Women, Soho*, 53, Harley Street, w. C. 1884-6 & 1898-1900. Hon. Sec. 1889-90. V.-P. 1891-3.
- F.F. †SMYLY, W. JOSIAH, M.D., T.C.D., F.R.C.P.I., F.R.C.S.I., *late Master of the Rotunda Hospital, Examiner in Midwifery, R.C.P.I., Dublin*, 58, Merrion Square, Dublin. C. 1888-90. V.-P. 1892-4. Pres. 1900.
- 1895 †SMYTH, ALEXANDER CARSON, M.B., C.M.Ed., Lochiel, 16, Craven Park, Harlesden, N.W.
- F.F. SMYTH, BRICE, B.A., M.B., M.Ch., T.C.D., *Consulting Physician Hospital for Sick Children, Physician Belfast Lying-in Hospital*, 20, University Square, Belfast. C. 1887-9. V.-P. 1889-91.

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- 1893 †SMYTH, JOHN WALKER, L.R.C.P. and S.Edin., 13, Colebrook Row, City Road, n.
- 1896 †SNOW, HERBERT, M.D.Lond., M.R.C.S., *Surgeon Cancer Hospital, Brompton*, 6, Gloucester Place, Portman Square, w.
- F.F. †SPANTON, W. DUNNETT, F.R.C.S.Eng., J.P., *Surgeon to the North Staffordshire Infirmary*, Chatterley House, Hanley, Staffordshire.
C. 1887-9. V.-P. 1890-92.
- 1898 SPEARING, ANDREW, L.F.P.S.G., Westfield, Patricroft, Lanes.
- 1898 SPROTT, WM. J., M.D., M.Ch., R.U.I., Netherleigh, Ilalton Bank, Pendleton, Manchester.
- 1889 STEKOULIS, CONSTANTIN, M.D., Péra, Rue Souterazi 7, Constantinople.
- 1893 †STEPHEN, GORGE CALDWELL, M.D., C.M.McGill, 54, Evelyn Gardens, South Kensington, s.w.
- 1885 STEVENSON, EDMUND SINCLAIR, M.D., F.R.C.S.E., Strathallan House, Rondebosch, Cape Colony. Hon. Loc. Sec.
- 1897 STEVENSON, JAMES, M.B.Ed., Pritchard Street, Johannesburg, South Africa.
- 1899 STEVENSON, WILLIAM JOHN, M.D., C.M., M.C.P. and S., Toronto, 391, Dundas Street, London, Canada.
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- L. 1888 STONE, ISAAC S., M.D., 3044, Fourteenth Street, n.w., Washington, D.C., U.S.A.
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- 1895 TREUB, HECTOR, M.D., *Professor of Obstetrics and Gynecology University of Amsterdam*, Vondelstraat, 83, Amsterdam. V.-P. 1897-9.
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